



MES PONNANI COLLEGE

<http://mesponnani.ac.in/>

6.3.5: Institutions Performance Appraisal System for teaching and non-teaching staff

Supporting Files

Application for Promotion under

Career Advancement Scheme (CAS)

*Academic Performance Indicator (API) Scores based on
Performance Based Appraisal System (PBAS)*

Submitted to

University of Calicut

From Assistant Professor (Stage-I) to Assistant Professor (Stage-II)

By

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Kerala-679586

Date of Screening-cum-Evaluation: November 24, 2018

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A2	: UGC D.O. No.F.12-1/2010(PS) – Promotion – Ph.D., while in service
A3	: UGC F.No. 2-16/2002(PS)Pt.FI.II – Extension of period for OC & RC
A4	: Copies of Front Page and Mark Sheet of SSLC Book
A5	: Copy of Mark Sheet – Pre-Degree
A6(a)	: Copy of Mark Sheet – B.Sc.
A6(b)	: Copy of Degree Certificate – B.Sc.
A7(a)	: Copy of Mark Sheet – M.Sc.
A7(b)	: Copy of Degree Certificate – M.Sc.
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A8(a)	: Copy of Degree Certificate – Ph.D.,
A8(b)	: Copy of Notification – Ph.D., Degree
A8(c)	: Copy of certificate – Ph.D., course work exemption
A9	: Copy of Certificate – Orientation Course
A10	: Copy of Certificate - Refresher Course
<u>Year-wise Documents (PART-B)</u>	
B1	: Workload Time Table
B2	: Certificate from IQAC on Internal Responsibilities (2011-12)
B3	: Certificate – Life Fellow of the Geological Society of India
B4	: Publication – EoS Transactions of the American Geophysical Union (2011-12)
B5	: Publication – Geological Society of India, Special Issue, GRR & CS (2011-12)
B6	: Publication – Geological Society of India, Special Issue, CS & GRR (2011-12)
B7	: Certificate from IQAC on Internal Responsibilities (2012-13)
B8	: Publication – Journal of Geological Society of India (2012-13)
B9	: Certificate from IQAC on Internal Responsibilities (2013-14)
B10	: University order – Member, BoS, Geology – University of Calicut
B11	: University order – Member, BoS, Geology – Kannur University
B12	: Publication – Journal of Geodynamics (2013-14)
B13	: Publication – EoS Transactions of the American Geophysical Union (2013-14)
B14	: Certificate from IQAC on Internal Responsibilities (2014-15)
B15	: Publication – National Workshop, NCESS (2014-15)
B16	: Copy of Certificate – Invited Talk, University of Kerala (2014-15)

UNIVERSITY OF CALICUT
Performance Based Appraisal System (PBAS)
PART A: GENERAL INFORMATION AND ACADEMIC BACKGROUND

1. Name (in Block Letters) : Dr. C. SREEJITH
 2. Father's Name : K. Achuthan
 3. Department : Geology
 4. Current Designation & Grade Pay : Assistant Professor (Stage I)
Rs.15600-39100 + (6000/- AGP)
 5. Date of last Promotion : Does Not Apply
 6. Which position & grade pay are you an applicant under CAS? : Assistant Professor (Stage II)
AGP Rs.7000/-
 7. Date of eligibility for promotion : 10.04.2015
(Ref: D.O. No.F.12-1/2010(PS) dated 17.1.2015 & F. No. 2-16/2002(PS) Pt. FI.II dated 16.10.2018 of UGC [Annexures A2 & A3])
 8. Date and Place of Birth : 21.10.1980; Edappal, Malappuram, Kerala
 9. Sex : Male
 10. Marital status : Married
 11. Nationality : Indian
 12. Indicate whether belongs to SC/ST/OBC category : Does Not Apply
 13. Address for correspondence (with Pincode) : Assistant Professor
Department of PG Studies & Research in Geology
MES Ponnani College
Ponnani South-PO
Malappuram-Dist, 679586
 14. Permanent Address (with Pincode) : "Ajith Nivas"
Edappal-PO
Malappuram-Dist, 679576
- Telephone No. : +91 9446 807 407
- E-mail : sreejithedapal@gmail.com

15. Academic Qualification (Matric till Post-Graduation) (Annexures A4 to A7):

<i>Examination</i>	<i>Name of the Board/ University</i>	<i>Year of Passing</i>	<i>Percentage of marks obtained</i>	<i>Division/ Class/Grade</i>	<i>Subject</i>
SSLC	Board of Public Examinations, Govt. of Kerala	1996	76.16	First Class	All Subjects
Pre-Degree	University of Calicut	1998	52.80	Second Class	Physics, Chemistry, Biology
B.Sc.	University of Calicut	2001	71.20	First Class	Geology
M.Sc.	University of Calicut	2003	73.80	First Class with Third Rank	Applied Geology

16. Research Degree (Annexure A8):

<i>Degree</i>	<i>Title</i>	<i>Date of award</i>	<i>University</i>
Ph.D.	Evolution of the Lower Crust in the Kerala Khondalite Belt (KKB), Southern India: Petrological and Geochemical Constraints and Insights into a New Arc-accretion Model	10.04.2015	University of Kerala

17. Appointments held prior to joining this institution:

<i>Designation</i>	<i>Name of Employer</i>	<i>Date of Joining</i>		<i>Salary with Grade</i>	<i>Reason of leaving</i>
		<i>Joining</i>	<i>Leaving</i>		
Research Intern	Regional Research Laboratory, Trivandrum	03.10.2004	31.03.2006	Rs. 8000/-	Joined as Senior Research Fellow at CESS
Senior Research Fellow	Centre for Earth Science Studies, Trivandrum	01.04.2006	31.01.2007	Rs. 12500/-	Joined for PhD studies

18. Posts held after appointment at this institution:

Designation	Department	Date of actual Joining		Grade
		Joining	Leaving	
Assistant Professor	Geology	21.02.2011	Continuing	Stage I (AGP 6000/-)

19. Period of teaching experience (in years) : P.G. Classes U.G. Classes

20. Research Experience excluding years spent in M.Phil/ Ph.D (in years) :

21. Fields of Specialisation under the Subject/ Discipline

- Magmatic and Metamorphic Petrology
- Geochemistry and Isotope Geochronology
- Tectonics and Planetary Evolution
- Themodynamics of minerals and melts

22. Academic Staff College Orientation/ Refresher Course attended (Annexures A9 & A10) :

Name of the Course/ Summer School	Place	Duration	Sponsoring Agency
139 th Orientation Programme (IT-Oriented)	UGC Academic Staff College, University of Kerala	14.10.2014 to 10.11.2014	University Grants Commission
Science Academies' Refresher Course on "Crystallography, Mineralogy, Igneous Petrology & Thermodynamics, Sedimentology and Economic Geology"	Indian Academy of Sciences, Bangalore	11.12.2015 to 24.12.2015	Indian Academy of Sciences, Bangalore, Indian National Science Academy, New Delhi, The National Academy of Sciences, Allahabad

PART B: ACADEMIC PERFORMANCE INDICATORS

Assessment Period from February 21, 2011 to February 20, 2012

CATEGORY: I. TEACHING, LEARNING AND EVALUATION RELATED ACTIVITIES

- (i) Lectures, Seminars, Tutorials, Practical, Contact Hours (give semester-wise details, where necessary)

<i>Sl. No.</i>	<i>Course / Paper</i>	<i>Level</i>	<i>Mode of Teaching*</i>	<i>Hours allotted per week</i>	<i>% of classes taken as per documented record</i>
<i>Odd Semesters</i>					
1.	III Semester: GL3B05 – Crystallography	UG	L	1	100
2.	III Semester: GL3B06(P) – Crystallography	UG	P	1	100
3.	III Semester: GL3B05 – Crystallography	UG	S/C/T	3	100
4.	V Semester: GL5B11– Structural Geology & Geotectonics	UG	L	2	100
5.	V Semester: GL5B13(P)– Structural Geology	UG	P	1	100
6.	V Semester: GL5B11– Structural Geology & Geotectonics	UG	S/C/T	3	100
7.	I Semester: GEL1C01 – Structural Geology & Geotectonics	PG	L	4.5	100
8.	I Semester: GEL1C04P– Geomorphology, Structural Geology, and Applied Palaeontology	PG	P	1	100
9.	I Semester: GEL1C01 – Structural Geology & Geotectonics	PG	S/C/T	2	100
10.	III Semester: GEL3C10– Igneous and Metamorphic Petrology	PG	L	4.5	100
11.	III Semester: GEL3C11P– Igneous and Metamorphic Petrology	PG	P	1	100
12.	III Semester: GEL3C10– Igneous and Metamorphic Petrology	PG	S/C/T	2	100

	<i>Even Semesters</i>				
1.	IV Semester: GL4B07– Mineralogy	UG	L	1	100
2.	IV Semester: GL4B08(P)– Crystallography & Mineralogy	UG	P	1	100
3.	IV Semester: GL4B07– Mineralogy	UG	S/C/T	3	100
4.	VI Semester: GL6B17– Sedimentary & Metamorphic Petrology	UG	L	2	100
5.	VI Semester: GL6B18(P)– Petrology and Palaeontology	UG	P	1	100
6.	VI Semester: GL6B17– Sedimentary & Metamorphic Petrology	UG	S/C/T	3	100
7.	II Semester: GEL2C05 – Crystallography & Mineralogy	PG	L	2	100
8.	II Semester: GEL 2C06– Geochemistry & Sedimentology	PG	L	2.5	100
9.	II Semester: GEL2C08P– Crystallography, Mineralogy, Hydrogeology, Geochemistry and Sedimentology	PG	P	1	100
10.	II Semester: GEL2C05 – Crystallography & Mineralogy	PG	S/C/T	1	100
11.	II Semester: GEL 2C06– Geochemistry & Sedimentology	PG	S/C/T	1	100
12.	IV Semester: GEL4C13– Applied Geology & Marine Geology	PG	L	4.5	100
13.	IV Semester: GEL4C14P– Economic Geology & Applied Geology & GEL4C15Pr – Dissertation	PG	P	1	100
14.	IV Semester: GEL4C13– Applied Geology & Marine Geology	PG	S/C/T	2	100

*Lecture (L), Seminar (S), Tutorials (T), Practical (P), Contact Hours (C)

		API Score	<i>Annexure</i>
(a)	Classes Taken (max 50 for 100% performance & proportionate score up to 80% performance, below which no score may be given)	50	B1
(b)	Teaching Load in excess of UGC norm (max score : 10)	-	-

(ii) Reading/ Instructional material consulted and additional knowledge resources provided to students

<i>Sl. No.</i>	<i>Course/Paper</i>	<i>Consulted</i>	<i>Prescribed</i>	<i>Additional Resources provided</i>
1.	III Semester UG: GL3B05 – Crystallography	Reference books/articles/ e- learning materials	References provided in the syllabus/ Web resources	e-books; Question Bank
2.	III Semester UG: GL3B06(P) – Crystallography	Reference books/articles/ e- learning materials	Reference books provided in the syllabus/ Web resources	e-books; Web resources
3.	IV Semester UG: GL4B07–Mineralogy	Reference books/articles/ e- learning materials	Reference books provided in the syllabus/ Web resources	e-books; Question Bank
4.	IV Semester UG: GL4B08(P)– Crystallography & Mineralogy	Reference books/articles/ e- learning materials	Reference books provided in the syllabus/ Web resources	DVD Rom on Optical Mineralogy
5.	V Semester UG: GL5B11–Structural Geology & Geotectonics	Reference books/articles/ e- learning materials	Reference books provided in the syllabus/ Web resources	e-books; Question Bank
6.	V Semester UG: GL5B13(P)–Structural Geology	Reference books/articles/ e- learning materials	Reference books provided in the syllabus/ Web resources	e-books; Web resources
7.	VI Semester UG: GL6B17– Sedimentary & Metamorphic Petrology	Reference books/articles/ e- learning materials	Reference books provided in the syllabus/ Web resources	e-books; Question Bank; Web resources
8.	VI Semester UG: GL6B18(P)– Petrology and Palaeontology	Reference books/articles/ e- learning materials	Reference books provided in the syllabus/ Web resources	Manual for Petrography

9.	I Semester PG: GEL1C01 – Structural Geology & Geotectonics	Reference books/articles/ e- learning materials	Reference books provided in the syllabus/ Web resources	e-books; Question Bank; Web resources
10.	I Semester PG: GEL1C04P– Geomorphology, Structural Geology, and Applied Palaeontology	Reference books/articles/ e- learning materials	Reference books provided in the syllabus/ Web resources	e-books; Web resources
11.	II Semester PG: GEL2C05 – Crystallography & Mineralogy	Reference books/articles/ e- learning materials	Reference books provided in the syllabus/ Web resources	e-books; Question Bank; Web resources
12.	II Semester: GEL 2C06– Geochemistry & Sedimentology	Reference books/articles/ e- learning materials	Reference books provided in the syllabus/ Web resources	Geochemical Data ToolKit software
13.	II Semester: GEL2C08P– Crystallography, Mineralogy, Hydrogeology, Geochemistry and Sedimentology	Reference books/articles/ e- learning materials	Reference books provided in the syllabus/ Web resources	e-books, DVD Rom on Optical Mineralogy
14.	III Semester: GEL3C10– Igneous and Metamorphic Petrology	Reference books/articles/ e- learning materials	Reference books provided in the syllabus/ Web resources	e-books; Question Bank; Web resources
15.	III Semester: GEL3C11P–Igneous and Metamorphic Petrology	Reference books/articles/ e- learning materials	Reference books provided in the syllabus/ Web resources	Software for P-T calculation
16.	IV Semester: GEL4C13– Applied Geology & Marine Geology	Reference books/articles/ e- learning materials	Reference books provided in the syllabus/ Web resources	e-books; Question Bank; Web resources
17.	IV Semester: GEL4C14P– Economic Geology & Applied Geology & GEL4C15Pr – Dissertation	Reference books/articles/ e- learning materials	Reference books provided in the syllabus/ Web resources	e-books; Web resources
API Score based on Preparation and imparting of knowledge/ instruction as per curriculum & syllabus enrichment by providing additional resources to Students (max-score: 20)				API Score
				20

- (iii) Use of Participatory and Innovative Teaching-Learning Methodologies, Updating of Subject Content, Course Improvement etc.

<i>Sl. No.</i>	<i>Short Description</i>	<i>API Score</i>
1.	Prepared PowerPoint presentations on all the modules assigned for all the classes and classes were handled using the same. The materials were also shared among the students as lecture notes	5
2.	Conducted special session on <i>P-T</i> estimation software training programme for III Semester MSc Applied Geology	5
3.	Conducted Remedial Classes for IV Semester BSc Geology Programme for the core course GL4B07–Mineralogy	5
4.	Group assignments and discussion	5
Total Score (Max Score : 20)		20

- (iv) Examination Duties Assigned and Performed

<i>Sl. No.</i>	<i>Type of Examination Duties</i>	<i>Duties Assigned</i>	<i>Extent to which carried out (%)</i>	<i>API Score</i>	<i>Annexure</i>
1.	University and Internal examination	Invigilation	100%	10	B2
2.	Practical Examiner – Calicut University; Kannur University	External Examiner	100%	10	
3.	University and Internal examination	Evaluation	100%	5	
4.	Internal Examination (Theory & Practical)	Question paper setting	100%	5	
Total Score (Max Score : 25)				25	

**CATEGORY: II. CO-CURRICULAR, EXTENSION, PROFESSIONAL
DEVELOPMENT RELATED ACTIVITIES**

Please mention your contribution to any of the following :

Sl. No.	Type of Activity	Yearly/ Semester-wise responsibilities	API Score	Annexure
(i)	Extension, Co-Curricular & field based Activities			
a)	College Arts Festival	Performed duties assigned with regard to Screening, Judging etc	5	B2
b)	Annual Sports Meet	Performed duties assigned with regard to the conduct of College Sports Meet	5	
c)	Departmental Activities	Organization of cultural activities of the department such as Association programmes, <i>Onam</i> and Christmas celebrations	2	
d)	Students union activity	Actively participated in union election as polling officer at University	5	
e)	Elections to State Legislative Assembly	Served as Presiding Officer	5	
Total (Max : 20)			20	

(ii)	Contribution to Corporate Life and Management of the Institution	Yearly/ Semester wise responsibilities	API Score	Annexure
a)	Library committee	Member	5	B2
b)	College Calendar and handbook for the academic year 2011-12	Data Compilation, Preparation, etc.	5	
Total (Max : 15)			10	

(iii)	Professional Development Activities	Yearly/ Semester wise responsibilities	API Score	Annexure
a)	Life Fellow of the Geological Society of India	Participated in the deliberation of the Society	10	B3
Total (Max : 15)			10	
Total Score (i + ii + iii) (Max : 25)			25	

CATEGORY: III. RESEARCH, PUBLICATIONS AND ACADEMIC CONTRIBUTIONS

A. Published Papers in Journals

<i>Sl. No.</i>	<i>Title</i>	<i>Journal, vol., Year, Page Nos</i>	<i>ISSN/ ISBN</i>	<i>Whether peer reviewed, Impact Factor, if any</i>	<i>No. of co-authors</i>	<i>Whether you are the main author</i>	<i>API Score</i>	<i>Annexure</i>
	NIL							

B. (i) Articles / Chapters published in Books

<i>Sl. No.</i>	<i>Title with page Nos.</i>	<i>Book Title, editor and publisher</i>	<i>ISSN/ ISBN</i>	<i>Whether peer reviewed</i>	<i>No. of co-authors</i>	<i>Whether you are the main author</i>	<i>API Score</i>	<i>Annexure</i>
	NIL							

(ii) Full Papers in Conference Proceedings

<i>Sl. No.</i>	<i>Title with page Nos.</i>	<i>Details of Conference Publication</i>	<i>ISSN/ ISBN</i>	<i>No. of co-authors</i>	<i>Whether you are the main author</i>	<i>API Score</i>	<i>Annexure</i>
1)	Growth and evolution of the Kerala Khondalite Belt, Southern India: mineral and whole-rock chemical evidence for intracrustal melting and magmatic petrogenesis. pp.2531-2533	EoS Transactions of the American Geophysical Union; AGU fall 2011 Meeting; V21D-2531; Vol. 92F(51)	0096-3941	1	No	4	B4
2)	Remelting of tonalitic crust and genesis of high-K granitoid during arc-accretion: evidence for crustal reworking in the Kerala Khondalite Belt, pp.108-109	International Symposium on Precambrian Accretionary Orogens, Abstract Volume, Geological Society of India, Special Issue, Vol 77A	0016-7622	1	No	4	B5

3)	Geochemistry of K-feldspar megacryst granitoids of the Kerala Khondalite Belt: evidence for exposed roots of an accreted continental-arc system, pp.127-128.	International Symposium on Precambrian Accretionary Orogens, Abstract Volume, Geological Society of India, Special Issue, Vol 77A	0016-7622	1	Yes	6	B6
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(ii) Books Published as single author or as editor

Sl. No.	Title with page Nos.	Type of Book and authorship	Publisher and ISSN/ ISBN	Whether peer reviewed	No. of co-authors	Whether you are the main author	API Score	Annexure
	NIL							

C. On-going and Completed Research Projects and Consultancies

(i & ii) On-going Projects/Consultancies

Sl. No.	Title	Agency	Period	Grant/ Amount Mobilized (Rs. in lakh)	API Score	Annexure
	NIL					

(iii & iv) Completed Projects/Consultancies

Sl. No.	Title	Agency	Period	Grant/ Amount Mobilized (Rs. in lakh)	Whether policy document/ patent as outcome	API Score	Annexure
	NIL						

D. Research Guidance

Degree	Number Enrolled	Thesis Submitted	Degree awarded	API Score	Annexure
M. Phil or equivalent	Does Not Apply	-	-	-	-
Ph. D. or equivalent	Does Not Apply	-	-	-	-

- E (i) Training Courses, Teaching-Learning-Evaluation Technology Programmes, Faculty Development Programmes (not less than one week duration)

<i>Sl. No.</i>	<i>Programme</i>	<i>Duration</i>	<i>Organised by</i>	<i>API Score</i>	<i>Annexure</i>
	NIL				

- (ii) Papers presented in Conferences, Seminars, Workshops, Symposia

<i>Sl. No.</i>	<i>Title of the Paper Presented</i>	<i>Title of Conference/ Seminar</i>	<i>Organised by</i>	<i>Whether International/ National/ State/ Regional/ College or University level</i>	<i>API Score</i>	<i>Annexure</i>
	NIL					

- (iii) Invited Lectures and Chairmanships at national or international conference/seminar etc.

<i>Sl. No.</i>	<i>Title of the Paper Presented</i>	<i>Title of Conference/ Seminar</i>	<i>Organised by</i>	<i>Whether International/ National</i>	<i>API Score</i>	<i>Annexure</i>
	NIL					

IV SUMMARY OF API SCORES

<i>Sl. No.</i>	<i>Criteria</i>	<i>Last Academic Year (2011-12)</i>	<i>Total-API Score for Assessment Period (2011-12)</i>	<i>Annual Av. API Score for Assessment Period (2011-15)</i>
I	Teaching, Learning and Evaluation related activities	115	115	115
II	Co-curricular, Extension, Professional development etc.	25	25	25
	Total I+II	140	140	140
III	Research and Academic Contribution	14	14	14

PART C: OTHER RELEVANT INFORMATION

Please give details of any other credential, significant contributions, awards received etc. not mentioned earlier.

Sl. No.	Details (Mention Year, value etc. where relevant)
	NIL

LIST OF ENCLOSURES: (Please attach, copies of certificates, sanction orders, papers etc. wherever necessary)

1.	Annexure A1 – University Letter – constituting screening committee
2.	Annexure A2 – UGC order – Promotion – Ph.D., while in service
3.	Annexure A3 – UGC Notice – Promotion – Extension of period for OC & RC
4.	Annexure A4 to A8 – Certificates of Educational Qualifications
5.	Annexure A9 – Certificate – Orientation Course
6.	Annexure A10 – Certificate – Refresher Course
7.	Annexure B1 – Workload Time Table
8.	Annexure B2 – Certificate from IQAC on Internal Responsibilities
9.	Annexure B3 – Certificate – Life Fellow of the Geological Society of India
10.	Annexures B4 to B6 – Publications

I certify that the information provided is correct as per records available with the university and/ or documents enclosed along with the duly filled PBAS Performa

Dr. C. Sreejith
Assistant Professor of Geology

Signature of Principal

PART B: ACADEMIC PERFORMANCE INDICATORS

Assessment Period from February 21, 2012 to February 20, 2013

CATEGORY: I. TEACHING, LEARNING AND EVALUATION RELATED ACTIVITIES

- (i) Lectures, Seminars, Tutorials, Practical, Contact Hours (give semester-wise details, where necessary)

<i>Sl. No.</i>	<i>Course / Paper</i>	<i>Level</i>	<i>Mode of Teaching*</i>	<i>Hours allotted per week</i>	<i>% of classes taken as per documented record</i>
<i>Odd Semesters</i>					
1.	III Semester: GL3B05 – Crystallography	UG	L	1	100
2.	III Semester: GL3B06(P) – Crystallography	UG	P	1	100
3.	III Semester: GL3B05 – Crystallography	UG	S/C/T	3	100
4.	V Semester: GL5B11– Structural Geology & Geotectonics	UG	L	2	100
5.	V Semester: GL5B13(P)– Structural Geology	UG	P	1	100
6.	V Semester: GL5B11– Structural Geology & Geotectonics	UG	S/C/T	3	100
7.	I Semester: GEL1C01 – Structural Geology & Geotectonics	PG	L	4.5	100
8.	I Semester: GEL1C04P– Geomorphology, Structural Geology, and Applied Palaeontology	PG	P	1	100
9.	I Semester: GEL1C01 – Structural Geology & Geotectonics	PG	S/C/T	2	100
10.	III Semester: GEL3C10– Igneous and Metamorphic Petrology	PG	L	4.5	100
11.	III Semester: GEL3C11P– Igneous and Metamorphic Petrology	PG	P	1	100
12.	III Semester: GEL3C10– Igneous and Metamorphic Petrology	PG	S/C/T	2	100

	<i>Even Semesters</i>				
1.	IV Semester: GL4B07– Mineralogy	UG	L	1	100
2.	IV Semester: GL4B08(P)– Crystallography & Mineralogy	UG	P	1	100
3.	IV Semester: GL4B07– Mineralogy	UG	S/C/T	3	100
4.	VI Semester: GL6B17– Sedimentary & Metamorphic Petrology	UG	L	2	100
5.	VI Semester: GL6B18(P)– Petrology and Palaeontology	UG	P	1	100
6.	VI Semester: GL6B17– Sedimentary & Metamorphic Petrology	UG	S/C/T	3	100
7.	II Semester: GEL2C05 – Crystallography & Mineralogy	PG	L	2	100
8.	II Semester: GEL 2C06– Geochemistry & Sedimentology	PG	L	2.5	100
9.	II Semester: GEL2C08P– Crystallography, Mineralogy, Hydrogeology, Geochemistry and Sedimentology	PG	P	1	100
10.	II Semester: GEL2C05 – Crystallography & Mineralogy	PG	S/C/T	1	100
11.	II Semester: GEL 2C06– Geochemistry & Sedimentology	PG	S/C/T	1	100
12.	IV Semester: GEL4C13– Applied Geology & Marine Geology	PG	L	4.5	100
13.	IV Semester: GEL4C14P– Economic Geology & Applied Geology & GEL4C15Pr – Dissertation	PG	P	1	100
14.	IV Semester: GEL4C13– Applied Geology & Marine Geology	PG	S/C/T	2	100

*Lecture (L), Seminar (S), Tutorials (T), Practical (P), Contact Hours (C)

		<i>API Score</i>	<i>Annexure</i>
(a)	Classes Taken (max 50 for 100% performance & proportionate score up to 80% performance, below which no score may be given)	50	B1
(b)	Teaching Load in excess of UGC norm (max score : 10)	-	-

(ii) Reading/ Instructional material consulted and additional knowledge resources provided to students

<i>Sl. No.</i>	<i>Course/Paper</i>	<i>Consulted</i>	<i>Prescribed</i>	<i>Additional Resources provided</i>
1.	III Semester UG: GL3B05 – Crystallography	Reference books/articles/ e- learning materials	References provided in the syllabus/ Web resources	e-books; Question Bank
2.	III Semester UG: GL3B06(P) – Crystallography	Reference books/articles/ e- learning materials	Reference books provided in the syllabus/ Web resources	e-books; Web resources
3.	IV Semester UG: GL4B07–Mineralogy	Reference books/articles/ e- learning materials	Reference books provided in the syllabus/ Web resources	e-books; Question Bank
4.	IV Semester UG: GL4B08(P)– Crystallography & Mineralogy	Reference books/articles/ e- learning materials	Reference books provided in the syllabus/ Web resources	DVD Rom on Optical Mineralogy
5.	V Semester UG: GL5B11–Structural Geology & Geotectonics	Reference books/articles/ e- learning materials	Reference books provided in the syllabus/ Web resources	e-books; Question Bank
6.	V Semester UG: GL5B13(P)–Structural Geology	Reference books/articles/ e- learning materials	Reference books provided in the syllabus/ Web resources	e-books; Web resources
7.	VI Semester UG: GL6B17– Sedimentary & Metamorphic Petrology	Reference books/articles/ e- learning materials	Reference books provided in the syllabus/ Web resources	e-books; Question Bank; Web resources
8.	VI Semester UG: GL6B18(P)– Petrology and Palaeontology	Reference books/articles/ e- learning materials	Reference books provided in the syllabus/ Web resources	Manual for Petrography

9.	I Semester PG: GEL1C01 – Structural Geology & Geotectonics	Reference books/articles/ e- learning materials	Reference books provided in the syllabus/ Web resources	e-books; Question Bank; Web resources
10.	I Semester PG: GEL1C04P– Geomorphology, Structural Geology, and Applied Palaeontology	Reference books/articles/ e- learning materials	Reference books provided in the syllabus/ Web resources	e-books; Web resources
11.	II Semester PG: GEL2C05 – Crystallography & Mineralogy	Reference books/articles/ e- learning materials	Reference books provided in the syllabus/ Web resources	e-books; Question Bank; Web resources
12.	II Semester PG: GEL 2C06– Geochemistry & Sedimentology	Reference books/articles/ e- learning materials	Reference books provided in the syllabus/ Web resources	Geochemical Data ToolKit software
13.	II Semester PG: GEL2C08P– Crystallography, Mineralogy, Hydrogeology, Geochemistry and Sedimentology	Reference books/articles/ e- learning materials	Reference books provided in the syllabus/ Web resources	e-books, DVD Rom on Optical Mineralogy
14.	III Semester PG: GEL3C10–Igneous and Metamorphic Petrology	Reference books/articles/ e- learning materials	Reference books provided in the syllabus/ Web resources	e-books; Question Bank; Web resources
15.	III Semester PG: GEL3C11P–Igneous and Metamorphic Petrology	Reference books/articles/ e- learning materials	Reference books provided in the syllabus/ Web resources	Software for P-T calculation
16.	IV Semester PG: GEL4C13– Applied Geology & Marine Geology	Reference books/articles/ e- learning materials	Reference books provided in the syllabus/ Web resources	e-books; Question Bank; Web resources
17.	IV Semester PG: GEL4C14P– Economic Geology & Applied Geology & GEL4C15Pr – Dissertation	Reference books/articles/ e- learning materials	Reference books provided in the syllabus/ Web resources	e-books; Web resources
API Score based on Preparation and imparting of knowledge/ instruction as per curriculum & syllabus enrichment by providing additional resources to Students (max-score: 20)				API Score
				20

- (iii) Use of Participatory and Innovative Teaching-Learning Methodologies, Updating of Subject Content, Course Improvement etc.

<i>Sl. No.</i>	<i>Short Description</i>	<i>API Score</i>
1.	Prepared PowerPoint presentations on all the modules assigned for all the classes and classes were handled using the same. The materials were also shared among the students as lecture notes	5
2.	Conducted special session on Geochemical Data ToolKit for IV Semester MSc Applied Geology	5
3.	Group assignments and discussion	5
4.	Conducted remedial coaching for VI Semester UG on the course GL6B17- Sedimentary & Metamorphic Petrology	5
Total Score (Max Score : 20)		20

- (iv) Examination Duties Assigned and Performed

<i>Sl. No.</i>	<i>Type of Examination Duties</i>	<i>Duties Assigned</i>	<i>Extent to which carried out (%)</i>	<i>API Score</i>	<i>Annexure</i>
1.	University and Internal examination	Invigilation	100%	10	B7
2.	University and Internal examination	Evaluation	100%	5	
3.	Internal Examination (Theory & Practical)	Question paper setting	100%	5	
4.	Practical Examiner – Kannur University	Evaluation	100%	10	
Total Score (Max Score : 25)				25	

**CATEGORY: II. CO-CURRICULAR, EXTENSION, PROFESSIONAL
DEVELOPMENT RELATED ACTIVITIES**

Please mention your contribution to any of the following :

Sl. No.	Type of Activity	Yearly/ Semester-wise responsibilities	API Score	Annexure
(i)	Extension, Co-Curricular & field based Activities			
a)	College Arts Festival	Performed duties assigned with regard to Screening, Judging etc.	5	B7
b)	Annual Sports Meet	Performed duties assigned with regard to the conduct of College Sports Meet	5	
c)	Departmental Activities	Organization of cultural activities of the department such as Association programmes, <i>Onam</i> and Christmas celebrations	2	
d)	Students union activity	Actively participated in union election as polling officer at University	5	
	Total (Max : 20)		17	

(ii)	Contribution to Corporate Life and Management of the Institution	Yearly/ Semester wise responsibilities	API Score	Annexure
a)	Library committee	Member	5	B7
b)	Public Relations Committee	Member	5	
	Total (Max : 15)		10	

(iii)	Professional Development Activities	Yearly/ Semester wise responsibilities	API Score	Annexure
a)	Life Fellow of the Geological Society of India	Participated in the deliberation of the Society	10	B3
Total (Max : 15)			10	
Total Score (i + ii + iii) (Max : 25)			25	

CATEGORY: III. RESEARCH, PUBLICATIONS AND ACADEMIC CONTRIBUTIONS

A. Published Papers in Journals

<i>Sl. No.</i>	<i>Title</i>	<i>Journal, vol., Year, Page Nos</i>	<i>ISSN/ ISBN</i>	<i>Whether peer reviewed, Impact Factor, if any</i>	<i>No. of co-authors</i>	<i>Whether you are the main author</i>	<i>API Score</i>	<i>Annexure</i>
1.	MnNCKFMASH phase relations in cordierite-orthopyroxene migmatitic gneisses, southern India: implications for low-pressure crustal melting under granulite-facies	Journal of Geological Society of India; v. 80, 2012; 613-627	0016-7622	Indexed by Thomson Reuters and Web of Science; IF: 0.8	1	Yes	9	B8

B. (i) Articles / Chapters published in Books

<i>Sl. No.</i>	<i>Title with page Nos.</i>	<i>Book Title, editor and publisher</i>	<i>ISSN/ ISBN</i>	<i>Whether peer reviewed</i>	<i>No. of co-authors</i>	<i>Whether you are the main author</i>	<i>API Score</i>	<i>Annexure</i>
	NIL							

(ii) Full Papers in Conference Proceedings

<i>Sl. No.</i>	<i>Title with page Nos.</i>	<i>Details of Conference Publication</i>	<i>ISSN/ ISBN</i>	<i>No. of co-authors</i>	<i>Whether you are the main author</i>	<i>API Score</i>	<i>Annexure</i>
	NIL						

(ii) Books Published as single author or as editor

<i>Sl. No.</i>	<i>Title with page Nos.</i>	<i>Type of Book and authorship</i>	<i>Publisher and ISSN/ ISBN</i>	<i>Whether peer reviewed</i>	<i>No. of co-authors</i>	<i>Whether you are the main author</i>	<i>API Score</i>	<i>Annexure</i>
	NIL							

C. On-going and Completed Research Projects and Consultancies

(i & ii) On-going Projects/Consultancies

<i>Sl. No.</i>	<i>Title</i>	<i>Agency</i>	<i>Period</i>	<i>Grant/ Amount Mobilized (Rs. in lakh)</i>	<i>API Score</i>	<i>Annexure</i>
	NIL					

(iii & iv) Completed Projects/Consultancies

<i>Sl. No.</i>	<i>Title</i>	<i>Agency</i>	<i>Period</i>	<i>Grant/ Amount Mobilized (Rs. in lakh)</i>	<i>Whether policy document/ patent as outcome</i>	<i>API Score</i>	<i>Annexure</i>
	NIL						

D. Research Guidance

<i>Degree</i>	<i>Number Enrolled</i>	<i>Thesis Submitted</i>	<i>Degree awarded</i>	<i>API Score</i>	<i>Annexure</i>
M. Phil or equivalent	Does Not Apply	-	-	-	-
Ph. D. or equivalent	Does Not Apply	-	-	-	-

E (i) Training Courses, Teaching-Learning-Evaluation Technology Programmes, Faculty Development Programmes (not less than one week duration)

<i>Sl. No.</i>	<i>Programme</i>	<i>Duration</i>	<i>Organised by</i>	<i>API Score</i>	<i>Annexure</i>
	NIL				

(ii) Papers presented in Conferences, Seminars, Workshops, Symposia

<i>Sl. No.</i>	<i>Title of the Paper Presented</i>	<i>Title of Conference/ Seminar</i>	<i>Organised by</i>	<i>Whether International/ National/ State/ Regional/ College or University level</i>	<i>API Score</i>	<i>Annexure</i>
	NIL					

(iii) Invited Lectures and Chairmanships at national or international conference/seminar etc.

<i>Sl. No.</i>	<i>Title of the Paper Presented</i>	<i>Title of Conference/ Seminar</i>	<i>Organised by</i>	<i>Whether International/ National</i>	<i>API Score</i>	<i>Annexure</i>
	NIL					

IV SUMMARY OF API SCORES

<i>Sl. No.</i>	<i>Criteria</i>	<i>Last Academic Year (2012-13)</i>	<i>Total-API Score for Assessment Period (2011-13)</i>	<i>Annual Av. API Score for Assessment Period (2011-15)</i>
I	Teaching, Learning and Evaluation related activities	115	230	115
II	Co-curricular, Extension, Professional development etc.	25	50	25
	Total I+II	140	280	140
III	Research and Academic Contribution	9	23	11.5

PART C: OTHER RELEVANT INFORMATION

Please give details of any other credential, significant contributions, awards received etc. not mentioned earlier.

Sl. No.	Details (Mention Year, value etc. where relevant)
	NIL

LIST OF ENCLOSURES: (Please attach, copies of certificates, sanction orders, papers etc. wherever necessary)

1.	Annexure B1 – Workload Time Table
2.	Annexure B3 – Certificate – Life Fellow of the Geological Society of India
3.	Annexure B7 – Certificate from IQAC on Internal Responsibilities (2012-13)
4.	Annexure B8 – Publication

I certify that the information provided is correct as per records available with the university and/ or documents enclosed along with the duly filled PBAS Performa

Dr. C. Sreejith
Assistant Professor of Geology

Signature of Principal

PART B: ACADEMIC PERFORMANCE INDICATORS

Assessment Period from February 21, 2013 to February 20, 2014

CATEGORY: I. TEACHING, LEARNING AND EVALUATION RELATED ACTIVITIES

- (i) Lectures, Seminars, Tutorials, Practical, Contact Hours (give semester-wise details, where necessary)

<i>Sl. No.</i>	<i>Course / Paper</i>	<i>Level</i>	<i>Mode of Teaching*</i>	<i>Hours allotted per week</i>	<i>% of classes taken as per documented record</i>
<i>Odd Semesters</i>					
1.	III Semester: GL3B05 – Crystallography	UG	L	1	100
2.	III Semester: GL3B06(P) – Crystallography	UG	P	1	100
3.	III Semester: GL3B05 – Crystallography	UG	S/C/T	3	100
4.	V Semester: GL5B11– Structural Geology & Geotectonics	UG	L	2	100
5.	V Semester: GL5B13(P)– Structural Geology	UG	P	1	100
6.	V Semester: GL5B11– Structural Geology & Geotectonics	UG	S/C/T	3	100
7.	I Semester: GEL1C01 – Structural Geology & Geotectonics	PG	L	4.5	100
8.	I Semester: GEL1C04P– Geomorphology, Structural Geology, and Applied Palaeontology	PG	P	1	100
9.	I Semester: GEL1C01 – Structural Geology & Geotectonics	PG	S/C/T	2	100
10.	III Semester: GEL3C10– Igneous and Metamorphic Petrology	PG	L	4.5	100
11.	III Semester: GEL3C11P– Igneous and Metamorphic Petrology	PG	P	1	100
12.	III Semester: GEL3C10– Igneous and Metamorphic Petrology	PG	S/C/T	2	100

	<i>Even Semesters</i>				
1.	IV Semester: GL4B07– Mineralogy	UG	L	1	100
2.	IV Semester: GL4B08(P)– Crystallography & Mineralogy	UG	P	1	100
3.	IV Semester: GL4B07– Mineralogy	UG	S/C/T	3	100
4.	VI Semester: GL6B17– Sedimentary & Metamorphic Petrology	UG	L	2	100
5.	VI Semester: GL6B18(P)– Petrology and Palaeontology	UG	P	1	100
6.	VI Semester: GL6B17– Sedimentary & Metamorphic Petrology	UG	S/C/T	3	100
7.	II Semester: GEL2C05 – Crystallography & Mineralogy	PG	L	2	100
8.	II Semester: GEL 2C06– Geochemistry & Sedimentology	PG	L	2.5	100
9.	II Semester: GEL2C08P– Crystallography, Mineralogy, Hydrogeology, Geochemistry and Sedimentology	PG	P	1	100
10.	II Semester: GEL2C05 – Crystallography & Mineralogy	PG	S/C/T	1	100
11.	II Semester: GEL 2C06– Geochemistry & Sedimentology	PG	S/C/T	1	100
12.	IV Semester: GEL4C13– Applied Geology & Marine Geology	PG	L	4.5	100
13.	IV Semester: GEL4C14P– Economic Geology & Applied Geology & GEL4C15Pr – Dissertation	PG	P	1	100
14.	IV Semester: GEL4C13– Applied Geology & Marine Geology	PG	S/C/T	2	100

*Lecture (L), Seminar (S), Tutorials (T), Practical (P), Contact Hours (C)

		<i>API Score</i>	<i>Annexure</i>
(a)	Classes Taken (max 50 for 100% performance & proportionate score up to 80% performance, below which no score may be given)	50	B1
(b)	Teaching Load in excess of UGC norm (max score : 10)	-	-

(ii) Reading/ Instructional material consulted and additional knowledge resources provided to students

<i>Sl. No.</i>	<i>Course/Paper</i>	<i>Consulted</i>	<i>Prescribed</i>	<i>Additional Resources provided</i>
1.	III Semester UG: GL3B05 – Crystallography	Reference books/articles/ e- learning materials	References provided in the syllabus/ Web resources	e-books; Question Bank
2.	III Semester UG: GL3B06(P) – Crystallography	Reference books/articles/ e- learning materials	Reference books provided in the syllabus/ Web resources	e-books; Web resources
3.	IV Semester UG: GL4B07–Mineralogy	Reference books/articles/ e- learning materials	Reference books provided in the syllabus/ Web resources	e-books; Question Bank
4.	IV Semester UG: GL4B08(P)– Crystallography & Mineralogy	Reference books/articles/ e- learning materials	Reference books provided in the syllabus/ Web resources	DVD Rom on Optical Mineralogy
5.	V Semester UG: GL5B11–Structural Geology & Geotectonics	Reference books/articles/ e- learning materials	Reference books provided in the syllabus/ Web resources	e-books; Question Bank
6.	V Semester UG: GL5B13(P)–Structural Geology	Reference books/articles/ e- learning materials	Reference books provided in the syllabus/ Web resources	e-books; Web resources
7.	VI Semester UG: GL6B17– Sedimentary & Metamorphic Petrology	Reference books/articles/ e- learning materials	Reference books provided in the syllabus/ Web resources	e-books; Question Bank; Web resources
8.	VI Semester UG: GL6B18(P)– Petrology and Palaeontology	Reference books/articles/ e- learning materials	Reference books provided in the syllabus/ Web resources	Manual for Petrography

9.	I Semester PG: GEL1C01 – Structural Geology & Geotectonics	Reference books/articles/ e- learning materials	Reference books provided in the syllabus/ Web resources	e-books; Question Bank; Web resources
10.	I Semester PG: GEL1C04P– Geomorphology, Structural Geology, and Applied Palaeontology	Reference books/articles/ e- learning materials	Reference books provided in the syllabus/ Web resources	e-books; Web resources
11.	II Semester PG: GEL2C05 – Crystallography & Mineralogy	Reference books/articles/ e- learning materials	Reference books provided in the syllabus/ Web resources	e-books; Question Bank; Web resources
12.	II Semester PG: GEL 2C06– Geochemistry & Sedimentology	Reference books/articles/ e- learning materials	Reference books provided in the syllabus/ Web resources	Geochemical Data ToolKit software
13.	II Semester PG: GEL2C08P– Crystallography, Mineralogy, Hydrogeology, Geochemistry and Sedimentology	Reference books/articles/ e- learning materials	Reference books provided in the syllabus/ Web resources	e-books, DVD Rom on Optical Mineralogy
14.	III Semester PG: GEL3C10–Igneous and Metamorphic Petrology	Reference books/articles/ e- learning materials	Reference books provided in the syllabus/ Web resources	e-books; Question Bank; Web resources
15.	III Semester PG: GEL3C11P–Igneous and Metamorphic Petrology	Reference books/articles/ e- learning materials	Reference books provided in the syllabus/ Web resources	Software for P-T calculation
16.	IV Semester PG: GEL4C13– Applied Geology & Marine Geology	Reference books/articles/ e- learning materials	Reference books provided in the syllabus/ Web resources	e-books; Question Bank; Web resources
17.	IV Semester PG: GEL4C14P– Economic Geology & Applied Geology & GEL4C15Pr – Dissertation	Reference books/articles/ e- learning materials	Reference books provided in the syllabus/ Web resources	e-books; Web resources
API Score based on Preparation and imparting of knowledge/ instruction as per curriculum & syllabus enrichment by providing additional resources to Students (max-score: 20)				API Score
				20

- (iii) Use of Participatory and Innovative Teaching-Learning Methodologies, Updating of Subject Content, Course Improvement etc.

<i>Sl. No.</i>	<i>Short Description</i>	<i>API Score</i>
1.	Prepared PowerPoint presentations on all the modules assigned for all the classes and classes were handled using the same. The materials were also shared among the students as lecture notes	5
2.	Conducted special session on <i>P-T</i> estimation software training programme for III Semester MSc Applied Geology	5
3.	Group assignments and discussion	5
4.	Conducted remedial coaching for VI Semester UG on the course GL6B17– Sedimentary & Metamorphic Petrology	5
Total Score (Max Score : 20)		20

- (iv) Examination Duties Assigned and Performed

<i>Sl. No.</i>	<i>Type of Examination Duties</i>	<i>Duties Assigned</i>	<i>Extent to which carried out (%)</i>	<i>API Score</i>	<i>Annexure</i>
1.	University and Internal examination	Invigilation	100%	10	B9
2.	University and Internal examination	Evaluation	100%	5	
3.	External examiner-Kannur University	Evaluation	100%	5	
4.	Internal Examination (Theory & Practical)	Question paper setting	100%	5	
Total Score (Max Score : 25)				25	

**CATEGORY: II. CO-CURRICULAR, EXTENSION, PROFESSIONAL
DEVELOPMENT RELATED ACTIVITIES**

Please mention your contribution to any of the following :

Sl. No.	Type of Activity	Yearly/ Semester-wise responsibilities	API Score	Annexure
(i)	Extension, Co-Curricular & field based Activities			
a)	Field work	Mapping camp (10 days) at Nemmara for III Semester MSc students	10	B9
b)	College Arts Festival	Performed duties assigned with regard to Screening, Judging etc	5	
c)	Annual Sports Meet	Performed duties assigned with regard to the conduct of College Sports Meet	5	
d)	Students union activity	Actively participated in union election as polling officer at University	5	
Total (Max : 20)			20	
(ii)	Contribution to Corporate Life and Management of the Institution	Yearly/ Semester wise responsibilities	API Score	Annexure
a)	Compulsory Social Service Scheme	Coordinator	5	B9
b)	Committee on Tutorial & QIP	Member	5	
Total (Max : 15)			10	
(iii)	Professional Development Activities	Yearly/ Semester wise responsibilities	API Score	Annexure
a)	Life Fellow of the Geological Society of India	Participated in the deliberation of the Society	10	B3
b)	Member, Board of studies in Geology, Universities of Calicut and Kannur	Involved in the deliberations during curriculum restructuring/ modifications	10	B10 & B11
Total (Max : 15)			15	
Total Score (i + ii + iii) (Max : 25)			25	

CATEGORY: III. RESEARCH, PUBLICATIONS AND ACADEMIC CONTRIBUTIONS

A. Published Papers in Journals

<i>Sl. No.</i>	<i>Title</i>	<i>Journal, vol., Year, Page Nos</i>	<i>ISSN/ ISBN</i>	<i>Whether peer reviewed, Impact Factor, if any</i>	<i>No. of co-authors</i>	<i>Whether you are the main author</i>	<i>API Score</i>	<i>Annexure</i>
1.	Petrogenesis of high-K metagranites in the Kerala Khondalite Belt, southern India: a possible magmatic-arc link between India, Sri Lanka, and Madagascar	Journal of Geodynamics; v. 63, 2013; 69–82	0264-3707	Indexed by Thomson Reuters and Web of Science; IF: 2.57	1	Yes	9	B12

B. (i) Articles / Chapters published in Books

<i>Sl. No.</i>	<i>Title with page Nos.</i>	<i>Book Title, editor and publisher</i>	<i>ISSN/ ISBN</i>	<i>Whether peer reviewed</i>	<i>No. of co-authors</i>	<i>Whether you are the main author</i>	<i>API Score</i>	<i>Annexure</i>
	NIL							

(ii) Full Papers in Conference Proceedings

<i>Sl. No.</i>	<i>Title with page Nos.</i>	<i>Details of Conference Publication</i>	<i>ISSN/ ISBN</i>	<i>No. of co-authors</i>	<i>Whether you are the main author</i>	<i>API Score</i>	<i>Annexure</i>
1.	Pervasive lower crustal melting and granite genesis in southern India: mechanisms of magma differentiation and rheological equilibration in continental-arc roots; pp 2607–2608	EoS Transactions of the American Geophysical Union; AGU fall 2013 Meeting; V13B-2607; 94F(52)	0096-3941	1	No	4	B13

(ii) Books Published as single author or as editor

<i>Sl. No.</i>	<i>Title with page Nos.</i>	<i>Type of Book and authorship</i>	<i>Publisher and ISSN/ ISBN</i>	<i>Whether peer reviewed</i>	<i>No. of co-authors</i>	<i>Whether you are the main author</i>	<i>API Score</i>	<i>Annexure</i>
	NIL							

C. On-going and Completed Research Projects and Consultancies

(i & ii) On-going Projects/Consultancies

<i>Sl. No.</i>	<i>Title</i>	<i>Agency</i>	<i>Period</i>	<i>Grant/ Amount Mobilized (Rs. in lakh)</i>	<i>API Score</i>	<i>Annexure</i>
	NIL					

(iii & iv) Completed Projects/Consultancies

<i>Sl. No.</i>	<i>Title</i>	<i>Agency</i>	<i>Period</i>	<i>Grant/ Amount Mobilized (Rs. in lakh)</i>	<i>Whether policy document/ patent as outcome</i>	<i>API Score</i>	<i>Annexure</i>
	NIL						

D. Research Guidance

<i>Degree</i>	<i>Number Enrolled</i>	<i>Thesis Submitted</i>	<i>Degree awarded</i>	<i>API Score</i>	<i>Annexure</i>
M. Phil or equivalent	Does Not Apply	-	-	-	-
Ph. D. or equivalent	Does Not Apply	-	-	-	-

E (i) Training Courses, Teaching-Learning-Evaluation Technology Programmes, Faculty Development Programmes (not less than one week duration)

<i>Sl. No.</i>	<i>Programme</i>	<i>Duration</i>	<i>Organised by</i>	<i>API Score</i>	<i>Annexure</i>
	NIL				

(ii) Papers presented in Conferences, Seminars, Workshops, Symposia

<i>Sl. No.</i>	<i>Title of the Paper Presented</i>	<i>Title of Conference/ Seminar</i>	<i>Organised by</i>	<i>Whether International/ National/ State/ Regional/ College or University level</i>	<i>API Score</i>	<i>Annexure</i>
	NIL					

(iii) Invited Lectures and Chairmanships at national or international conference/seminar etc.

<i>Sl. No.</i>	<i>Title of the Paper Presented</i>	<i>Title of Conference/ Seminar</i>	<i>Organised by</i>	<i>Whether International/ National</i>	<i>API Score</i>	<i>Annexure</i>
	NIL					

IV SUMMARY OF API SCORES

<i>Sl. No.</i>	<i>Criteria</i>	<i>Last Academic Year (2013-14)</i>	<i>Total-API Score for Assessment Period (2011-14)</i>	<i>Annual Av. API Score for Assessment Period (2011-15)</i>
I	Teaching, Learning and Evaluation related activities	115	345	115
II	Co-curricular, Extension, Professional development etc.	25	75	25
	Total I+II	140	420	140
III	Research and Academic Contribution	13	36	12

PART C: OTHER RELEVANT INFORMATION

Please give details of any other credential, significant contributions, awards received etc. not mentioned earlier.

Sl. No.	Details (Mention Year, value etc. where relevant)
	NIL

LIST OF ENCLOSURES: (Please attach, copies of certificates, sanction orders, papers etc. wherever necessary)

1.	Annexure B1 – Workload Time Table
2.	Annexure B3 – Certificate – Life Fellow of the Geological Society of India
3.	Annexure B9 – Certificate from IQAC on Internal Responsibilities (2013-14)
4.	Annexure B10 – University order – Member, BoS, Geology – University of Calicut
5.	Annexure B10 – University order – Member, BoS, Geology – Kannur University
6.	Annexure B12 & B13 – Publications

I certify that the information provided is correct as per records available with the university and/ or documents enclosed along with the duly filled PBAS Performa

Dr. C. Sreejith
Assistant Professor of Geology

Signature of Principal

PART B: ACADEMIC PERFORMANCE INDICATORS

Assessment Period from February 21, 2014 to April 10, 2015*

(*Date of Award of Ph.D., Degree)

CATEGORY: I. TEACHING, LEARNING AND EVALUATION RELATED ACTIVITIES

- (i) Lectures, Seminars, Tutorials, Practical, Contact Hours (give semester-wise details, where necessary)

<i>Sl. No.</i>	<i>Course / Paper</i>	<i>Level</i>	<i>Mode of Teaching*</i>	<i>Hours allotted per week</i>	<i>% of classes taken as per documented record</i>
<i>Odd Semesters</i>					
1.	III Semester: GL3B05 – Crystallography	UG	L	1	100
2.	III Semester: GL3B06(P) – Crystallography	UG	P	1	100
3.	III Semester: GL3B05 – Crystallography	UG	S/C/T	3	100
4.	V Semester: GL5B11– Structural Geology & Geotectonics	UG	L	2	100
5.	V Semester: GL5B13(P)– Structural Geology	UG	P	1	100
6.	V Semester: GL5B11– Structural Geology & Geotectonics	UG	S/C/T	3	100
7.	I Semester: GEL1C01 – Structural Geology & Geotectonics	PG	L	4.5	100
8.	I Semester: GEL1C04P– Geomorphology, Structural Geology, and Applied Palaeontology	PG	P	1	100
9.	I Semester: GEL1C01 – Structural Geology & Geotectonics	PG	S/C/T	2	100
10.	III Semester: GEL3C10– Igneous and Metamorphic Petrology	PG	L	4.5	100
11.	III Semester: GEL3C11P– Igneous and Metamorphic Petrology	PG	P	1	100
12.	III Semester: GEL3C10– Igneous and Metamorphic Petrology	PG	S/C/T	2	100

	<i>Even Semesters</i>				
1.	IV Semester: GL4B07– Mineralogy	UG	L	1	100
2.	IV Semester: GL4B08(P)– Crystallography & Mineralogy	UG	P	1	100
3.	IV Semester: GL4B07– Mineralogy	UG	S/C/T	3	100
4.	VI Semester: GL6B17– Sedimentary & Metamorphic Petrology	UG	L	2	100
5.	VI Semester: GL6B18(P)– Petrology and Palaeontology	UG	P	1	100
6.	VI Semester: GL6B17– Sedimentary & Metamorphic Petrology	UG	S/C/T	3	100
7.	II Semester: GEL2C05 – Crystallography & Mineralogy	PG	L	2	100
8.	II Semester: GEL 2C06– Geochemistry & Sedimentology	PG	L	2.5	100
9.	II Semester: GEL2C08P– Crystallography, Mineralogy, Hydrogeology, Geochemistry and Sedimentology	PG	P	1	100
10.	II Semester: GEL2C05 – Crystallography & Mineralogy	PG	S/C/T	1	100
11.	II Semester: GEL 2C06– Geochemistry & Sedimentology	PG	S/C/T	1	100
12.	IV Semester: GEL4C13– Applied Geology & Marine Geology	PG	L	4.5	100
13.	IV Semester: GEL4C14P– Economic Geology & Applied Geology & GEL4C15Pr – Dissertation	PG	P	1	100
14.	IV Semester: GEL4C13– Applied Geology & Marine Geology	PG	S/C/T	2	100

*Lecture (L), Seminar (S), Tutorials (T), Practical (P), Contact Hours (C)

		<i>API Score</i>	<i>Annexure</i>
(a)	Classes Taken (max 50 for 100% performance & proportionate score up to 80% performance, below which no score may be given)	50	B1
(b)	Teaching Load in excess of UGC norm (max score : 10)	-	-

(ii) Reading/ Instructional material consulted and additional knowledge resources provided to students

<i>Sl. No.</i>	<i>Course/Paper</i>	<i>Consulted</i>	<i>Prescribed</i>	<i>Additional Resources provided</i>
1.	III Semester UG: GL3B05 – Crystallography	Reference books/articles/ e- learning materials	References provided in the syllabus/ Web resources	e-books; Question Bank
2.	III Semester UG: GL3B06(P) – Crystallography	Reference books/articles/ e- learning materials	Reference books provided in the syllabus/ Web resources	e-books; Web resources
3.	IV Semester UG: GL4B07–Mineralogy	Reference books/articles/ e- learning materials	Reference books provided in the syllabus/ Web resources	e-books; Question Bank
4.	IV Semester UG: GL4B08(P)– Crystallography & Mineralogy	Reference books/articles/ e- learning materials	Reference books provided in the syllabus/ Web resources	DVD Rom on Optical Mineralogy
5.	V Semester UG: GL5B11–Structural Geology & Geotectonics	Reference books/articles/ e- learning materials	Reference books provided in the syllabus/ Web resources	e-books; Question Bank
6.	V Semester UG: GL5B13(P)–Structural Geology	Reference books/articles/ e- learning materials	Reference books provided in the syllabus/ Web resources	e-books; Web resources
7.	VI Semester UG: GL6B17– Sedimentary & Metamorphic Petrology	Reference books/articles/ e- learning materials	Reference books provided in the syllabus/ Web resources	e-books; Question Bank; Web resources
8.	VI Semester UG: GL6B18(P)– Petrology and Palaeontology	Reference books/articles/ e- learning materials	Reference books provided in the syllabus/ Web resources	Manual for Petrography

9.	I Semester PG: GEL1C01 – Structural Geology & Geotectonics	Reference books/articles/ e- learning materials	Reference books provided in the syllabus/ Web resources	e-books; Question Bank; Web resources
10.	I Semester PG: GEL1C04P– Geomorphology, Structural Geology, and Applied Palaeontology	Reference books/articles/ e- learning materials	Reference books provided in the syllabus/ Web resources	e-books; Web resources
11.	II Semester PG: GEL2C05 – Crystallography & Mineralogy	Reference books/articles/ e- learning materials	Reference books provided in the syllabus/ Web resources	e-books; Question Bank; Web resources
12.	II Semester PG: GEL 2C06– Geochemistry & Sedimentology	Reference books/articles/ e- learning materials	Reference books provided in the syllabus/ Web resources	Geochemical Data ToolKit software
13.	II Semester PG: GEL2C08P– Crystallography, Mineralogy, Hydrogeology, Geochemistry and Sedimentology	Reference books/articles/ e- learning materials	Reference books provided in the syllabus/ Web resources	e-books, DVD Rom on Optical Mineralogy
14.	III Semester PG: GEL3C10–Igneous and Metamorphic Petrology	Reference books/articles/ e- learning materials	Reference books provided in the syllabus/ Web resources	e-books; Question Bank; Web resources
15.	III Semester PG: GEL3C11P–Igneous and Metamorphic Petrology	Reference books/articles/ e- learning materials	Reference books provided in the syllabus/ Web resources	Software for P-T calculation
16.	IV Semester PG: GEL4C13– Applied Geology & Marine Geology	Reference books/articles/ e- learning materials	Reference books provided in the syllabus/ Web resources	e-books; Question Bank; Web resources
17.	IV Semester PG: GEL4C14P– Economic Geology & Applied Geology & GEL4C15Pr – Dissertation	Reference books/articles/ e- learning materials	Reference books provided in the syllabus/ Web resources	e-books; Web resources
API Score based on Preparation and imparting of knowledge/ instruction as per curriculum & syllabus enrichment by providing additional resources to Students (max-score: 20)				API Score
				20

- (iii) Use of Participatory and Innovative Teaching-Learning Methodologies, Updating of Subject Content, Course Improvement etc.

<i>Sl. No.</i>	<i>Short Description</i>	<i>API Score</i>
1.	Prepared PowerPoint presentations on all the modules assigned for all the classes and classes were handled using the same. The materials were also shared among the students as lecture notes	5
2.	Conducted special session on <i>P-T</i> estimation software training programme for III Semester MSc Applied Geology	5
3.	Group assignments and discussion	5
4.	Conducted remedial coaching for VI Semester UG on the course GL6B17– Sedimentary & Metamorphic Petrology	5
Total Score (Max Score : 20)		20

- (iv) Examination Duties Assigned and Performed

<i>Sl. No.</i>	<i>Type of Examination Duties</i>	<i>Duties Assigned</i>	<i>Extent to which carried out (%)</i>	<i>API Score</i>	<i>Annexure</i>
1.	University and Internal examination	Invigilation	100%	10	B14
2.	University and Internal examination	Evaluation	100%	5	
3.	External examiner-Kannur University	Evaluation	100%	5	
4.	Internal Examination (Theory & Practical)	Question paper setting	100%	5	
Total Score (Max Score : 25)				25	

**CATEGORY: II. CO-CURRICULAR, EXTENSION, PROFESSIONAL
DEVELOPMENT RELATED ACTIVITIES**

Please mention your contribution to any of the following :

Sl. No.	Type of Activity	Yearly/ Semester-wise responsibilities	API Score	Annexure
(i)	Extension, Co-Curricular & field based Activities			
a)	Field work	Conducted field mapping camp extending for 10 days at Mananthavadi for III Semester MSc students	10	B14
b)	College Arts Festival	Performed duties assigned with regard to Screening, Judging etc	5	
c)	Annual Sports Meet	Performed duties assigned with regard to the conduct of College Sports Meet	5	
d)	Students union activity	Actively participated in union election as polling officer at University	5	
e)	General elections to Parliament Constituency	Served as Presiding Officer	5	
Total (Max : 20)			20	

(ii)	Contribution to Corporate Life and Management of the Institution	Yearly/ Semester wise responsibilities	API Score	Annexure
a)	Parent-Teacher Association	Member	5	B14
b)	Anti-Harassment Cell	Member	5	
Total (Max : 15)			10	

(iii)	Professional Development Activities	Yearly/ Semester wise responsibilities	API Score	Annexure
a)	Life Fellow of the Geological Society of India	Participated in the deliberation of the Society	10	B3
b)	Member, Board of studies in Geology, Universities of Calicut and Kannur	Involved in the deliberations during curriculum restructuring/ modifications	10	B10 & B11
Total (Max : 15)			15	
Total Score (i + ii + iii) (Max : 25)			25	

CATEGORY: III. RESEARCH, PUBLICATIONS AND ACADEMIC CONTRIBUTIONS

A. Published Papers in Journals

<i>Sl. No.</i>	<i>Title</i>	<i>Journal, vol., Year, Page Nos</i>	<i>ISSN/ ISBN</i>	<i>Whether peer reviewed, Impact Factor, if any</i>	<i>No. of co-authors</i>	<i>Whether you are the main author</i>	API Score	<i>Annexure</i>
	NIL							

B. (i) Articles / Chapters published in Books

<i>Sl. No.</i>	<i>Title with page Nos.</i>	<i>Book Title, editor and publisher</i>	<i>ISSN/ ISBN</i>	<i>Whether peer reviewed</i>	<i>No. of co-authors</i>	<i>Whether you are the main author</i>	API Score	<i>Annexure</i>
	NIL							

(ii) Full Papers in Conference Proceedings

<i>Sl. No.</i>	<i>Title with page Nos.</i>	<i>Details of Conference Publication</i>	<i>ISSN/ ISBN</i>	<i>No. of co-authors</i>	<i>Whether you are the main author</i>	API Score	<i>Annexure</i>
	NIL						

(ii) Books Published as single author or as editor

<i>Sl. No.</i>	<i>Title with page Nos.</i>	<i>Type of Book and authorship</i>	<i>Publisher and ISSN/ ISBN</i>	<i>Whether peer reviewed</i>	<i>No. of co-authors</i>	<i>Whether you are the main author</i>	API Score	<i>Annexure</i>
	NIL							

C. On-going and Completed Research Projects and Consultancies

(i & ii) On-going Projects/Consultancies

<i>Sl. No.</i>	<i>Title</i>	<i>Agency</i>	<i>Period</i>	<i>Grant/ Amount Mobilized (Rs. in lakh)</i>	API Score	<i>Annexure</i>
	NIL					

(iii & iv) Completed Projects/Consultancies

<i>Sl. No.</i>	<i>Title</i>	<i>Agency</i>	<i>Period</i>	<i>Grant/ Amount Mobilized (Rs. in lakh)</i>	<i>Whether policy document/ patent as outcome</i>	<i>API Score</i>	<i>Annexure</i>
	NIL						

D. Research Guidance

<i>Degree</i>	<i>Number Enrolled</i>	<i>Thesis Submitted</i>	<i>Degree awarded</i>	<i>API Score</i>	<i>Annexure</i>
M. Phil or equivalent	Does Not Apply	-	-	-	-
Ph. D. or equivalent	Does Not Apply	-	-	-	-

E (i) Training Courses, Teaching-Learning-Evaluation Technology Programmes, Faculty Development Programmes (not less than one week duration)

<i>Sl. No.</i>	<i>Programme</i>	<i>Duration</i>	<i>Organised by</i>	<i>API Score</i>	<i>Annexure</i>
1.	UGC Sponsored orientation programme (IT-oriented)	28 days	UGC-Academic Staff College, University of Kerala	10	A9

(ii) Papers presented in Conferences, Seminars, Workshops, Symposia

<i>Sl. No.</i>	<i>Title of the Paper Presented</i>	<i>Title of Conference/ Seminar</i>	<i>Organised by</i>	<i>Whether International/ National/ State/ Regional/ College or University level</i>	<i>API Score</i>	<i>Annexure</i>
1.	Occurrences of syenite-syeno-granite associations within the alkaline complex of Mannapra, southern India: evidences for high-temperature melt segregation and out-crop scale liquid immiscibility	National Workshop on Continental Crust and Cover Sequences in the Evolution of the Indian Sub-Continent	National Centre for Earth Science Studies, Trivandrum	National	7.5	B15

(iii) Invited Lectures and Chairmanships at national or international conference/seminar etc.

<i>Sl. No.</i>	<i>Title of the Paper Presented</i>	<i>Title of Conference/ Seminar</i>	<i>Organised by</i>	<i>Whether International / National</i>	<i>API Score</i>	<i>Annexure</i>
1.	From arc to highlands: the story of origin and exhumation of granulite-facies rocks in the Kerala Khondalite Belt, southern India	UGC-SAP DRS II Seminar on "Shear zones and crustal blocks of southern India"	Dept. of Geology, University of Kerala	National	5	B16

IV SUMMARY OF API SCORES

<i>Sl. No.</i>	<i>Criteria</i>	<i>Last Academic Year (2014-15)</i>	<i>Total-API Score for Assessment Period (2011-15)</i>	<i>Annual Av. API Score for Assessment Period (2011-15)</i>
I	Teaching, Learning and Evaluation related activities	115	460	115
II	Co-curricular, Extension, Professional development etc.	25	100	25
	Total I+II	140	560	140
III	Research and Academic Contribution	22.5	58.5	14.6

PART C: OTHER RELEVANT INFORMATION

Please give details of any other credential, significant contributions, awards received etc. not mentioned earlier.

Sl. No.	Details (Mention Year, value etc. where relevant)
	NIL

LIST OF ENCLOSURES: (Please attach, copies of certificates, sanction orders, papers etc. wherever necessary)

1.	Annexure A9 – Copy of Certificate – Orientation Course
2.	Annexure B1 – Workload Time Table
3.	Annexure B3 – Certificate – Life Fellow of the Geological Society of India
4.	Annexure B14 – Certificate from IQAC on Internal Responsibilities (2014-15)
5.	Annexure B15 – Publication
6.	Annexure B16 – Copy of Certificate – Invited Talk, University of Kerala (2014-15)

I certify that the information provided is correct as per records available with the university and/ or documents enclosed along with the duly filled PBAS Performa

Dr. C. Sreejith
Assistant Professor of Geology

Signature of Principal

SUMMARY OF API SCORES

Sl. No.	Criteria	Assessment year				Cumulative API Score for the Assessment Period (2011-15)	Average API for the Assessment Period (2011-15)
		2011-12	2012-13	2013-14	2014-15		
I	Teaching, Learning and Evaluation related activities	115	115	115	115	460	115
II	Co-curricular, Extension, Professional development etc.	25	25	25	25	100	25
	Total I+II	140	140	140	140	560	140
III	Research and Academic Contribution	14	9	13	22.5	58.5	14.6

Dr. C. Sreejith
Assistant Professor of Geology

Signature of Principal



UNIVERSITY OF CALICUT
G & A - II - SPECIAL CELL

No. 114491/G & A - II - SPL.CEL 3/2014/Admn

Calicut University.P.O

Dated: 13.12.2016

From

The Registrar

To

The Principal,
MES Ponnani College.

Sir/Madam,

Sub:- Constitution of Screening cum Evaluation Committee for the CAS promotion of Dr. C Sreejith, Assistant Professor, Department of Geology & Dr. Jayasree K.M., Assistant Professor, Department of Malayalam - subject experts nominated - intimation - reg.

- Ref:- 1. Your Office Letter No. E1/CAS/2016 dated 15/11/2016.
2. Your Office Letter No. E1/CAS/2016 dated 22/11/2016.

With reference to above, I am to forward herewith the details of two subject experts each in Geology & Malayalam, nominated by the Vice Chancellor, for the constitution of Screening cum Evaluation Committee, for the promotion of Dr. C. Sreejith Assistant Professor, Department of Geology & Dr. Jayasree K.M., Assistant Professor, Department of Malayalam of your college, under Career Advancement Scheme.

1. Geology (Promotion of Dr. C. Sreejith, from Assistant Professor Stage 1 to Stage 2)

Name of Subject Expert	Designation	College/University
Sri. R.V. Rajan	Associate Professor	Christ College, Irinjalakuda
Dr. S. Sreekumar	Associate Professor	Christ College, Irinjalakuda

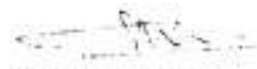
2. Malayalam (Promotion of Dr. Jayasree K.M., from Assistant Professor Stage 1 to Stage 2)

Name of Subject Expert	Designation	College/University
Sri. Reji V.S.	Associate Professor & HoD	Sree Narayana College, Nattika
Sri. E.S. Satheesan	Associate Professor	Sree Kerala Varma College, Thrissur

You are, therefore, requested to conduct screening and evaluation procedures for granting promotion under CAS to the above teachers, observing the provisions in the Amended Regulations 2014 and forward the proposal to this office in the prescribed proforma duly supported by all credentials.

Thanking you,

Yours faithfully


Velayudhan M

Joint Registrar

(For The Registrar)



योगे सर्वे ज्ञानमस्य सन्धि
सन्धि

Prof. Dr. Jaspal S. Sandhu

MBBS, MS (Dnbo), USA, FMS, FASM, FAFSM, FRMS, FAMS

Secretary



सत्यमेव जयते

By Speed Post

विश्वविद्यालय अनुदान आयोग
University Grants Commission

(मानव संसाधन विकास मंत्रालय, भारत सरकार)
(Ministry of Human Resource Development, Govt. of India)

बहादुरशाह जलार मार्ग, नई दिल्ली-110002
Bahadur Shah Zafar Marg, New Delhi 110002

Ph.: 011 23239337, 23236288.

Fax: 011-23238858, email: jssandhu@ugc@nic.in

D.O. No.F.12-1/2010(PS)

17th August, 2015

Dear Sir/Madam,

UGC had framed UGC Regulations (Minimum Qualifications for Appointment of Teachers and other Academic Staff in Universities and Colleges and Measures for the Maintenance of Standards in Higher Education), 2010, which have been notified in the Gazette of India dated 18th 24th September, 2010. The UGC has been receiving a number of queries from Universities, Colleges and stakeholders seeking clarification regarding the date of eligibility of candidates, who acquire Ph.D./M.Phil. after four years but within six years from the date of their appointment, for their promotion from Stage I to Stage II (AGP Rs.6000 to AGP Rs 7000). The matter has been examined by UGC with regard to the provision contained in the Clause 1.1 of Schedule for Clause 6.8.0 of these Regulations which states as under:-

1.1 An Assistant Professor with completed service of four years, possessing Ph. D. Degree in the relevant discipline shall be eligible for moving to AGP of Rs. 7,000.

It is clarified that an Assistant Professor who completes Ph.D. or M.Phil. Degree within 4 or 5 years from the date of his/her appointment shall also be eligible for moving from the AGP of Rs.6000/- to AGP of Rs 7000/- after completion of 4 and 5 years of his/her service respectively. Further, if the incumbent acquires Ph.D./M.Phil. after completion of 4 years of service/5 years of service and before 6 years of service respectively, he/she shall be eligible to move to Stage II (AGP Rs 7000) from the date of award of Ph.D./M.Phil. Degree subject to the fulfillment of other conditions stipulated in UGC Regulations (Minimum Qualifications for Appointment of Teachers and other Academic Staff in Universities and Colleges and Measures for the Maintenance of Standards in Higher Education), 2010, for the same. Provided: that the Ph.D./M.Phil. Degree awarded by the University is in the relevant subject, following the process of admission, registration, course work and external evaluation as per above regulations.

However, the claim of advance increments for possessing Ph.D./M.Phil. Degree as mentioned above shall be strictly as per clause 9.4(i) and 9.7 of schedule for clause 6.8.0 of UGC Regulations, 2010.

This may be brought to the notice of the Colleges affiliated to your University.

With regards,

Yours sincerely,

(Jaspal S. Sandhu)

To

The Vice-Chancellor of all the Universities as per list attached.

Copy to:

1. The Education Secretaries of All the State Governments.
2. The Publication Officer, UGC New Delhi for uploading on UGC Website.

(Jaspal S. Sandhu)



विश्वविद्यालय अनुदान आयोग
University Grants Commission

(मानव संसाधन विकास मंत्रालय, भारत सरकार)
(Ministry of Human Resource Development, Govt. of India)
बहादुरशाह ज़फ़र मार्ग, नई दिल्ली-110002
Bahadur Shah Zafar Marg, New Delhi-110002

F.No. 2-16/2002(PS)Pt.FI.II

16th October 2018

PUBLIC NOTICE

The issue regarding extension of the date of participation in Orientation/Refresher Course in respect of Teachers/Assistant Registrar/Assistant University Librarian/College Librarian/Deputy Librarian/Assistant Director of Physical Education/College Director of Physical Education for the purpose of career advancement was considered by the Commission (UGC) in its 535th Meeting held on 27th September 2018 and approved to extend the date for completing Orientation Course/Refresher Course for promotion under CAS upto **31.12.2018** for all the candidates to ensure uniformity.

All the Universities and affiliated colleges are requested to comply with the above provision of extension.

(Prof. Rajnish Jain)
Secretary



1. Name of Candidate..... **S.R.E.E.J.I.T.H.:C.**
 (In English, in block capitals, initials after the Name)
 (a) Expansion of initials, if any. **Chalootthu**
 (b) Name in Regional Language... **ചോളൂത്തു. സി.**
 2. Sex (Male or Female)... **Male**
 3. Religion... **Hindu** 4. Caste... **NAIR**
 5. Place of Birth... **Edappal**
 (a) Panchayat or Town **Edappal** (b) Country... **India**
 6. Nationality... **Indian**
 7. Date of Birth (in figures)... **21.10.1980**
 (in words) **Twenty-first October Nineteen eighty**
 8. Name of Father... **Achuthan.K.**
 9. Name of Mother... **Gurija Kumari.C.**
 10. Name of Guardian... **Achuthan.K.**
 (as given in the admission register)
 11. Relationship of the Guardian with the Pupil... **Father**
 12. Occupation of the Parent/Guardian... **Ex-Service**
 13. Parent's or Guardian's Postal Address... **Ajith Nivas**
 **Edappal**.....
 14. Mode of Presentation... **Regular**
 15. Personal Marks of Identification
 (i) **A. wound. Scar. on the forehead...**
 (ii) **A. black. mole. on the left side of the neck**

I certify that the entries in this page are accurate as per relevant school records.

C. D. Gopalan
 Name and Signature of Head of School with Date



(School seal)

Designation

61/234/95.

Govt. High School - Chalootthu
 P. O. Edappal - 201010



SECONDARY SCHOOL LEAVING CERTIFICATE EXAMINATION

Name of Candidate..... **S.R.E.E.J.I.T.H.:C.**
 (Block Capitals)
 Register Number..... **137139** Month & Year... **March. 19. 96**

Subjects	Maximum For the Paper	Marks at the Public Examination			Minimum for a pass	
		Subject Total	In figures	In words	Subject	Group
Group A—Languages: FIRST LANGUAGE Part I Malayalam	50	40	86	192 One hundred and ninety two	20	90
Part II Malayalam	50	46				
SECOND LANGUAGE English Paper I	50	34	66	265 Two hundred and sixty five	20	120
Paper II	50	32				
THIRD LANGUAGE Hindi	50	40	40	457 Four hundred and fifty seven	10	98
Group B—Subjects: SOCIAL SCIENCES Part I—History & the Cultural Heritage of India	50	39	71			
Part II—Geography Political Science & Economics	50	32		20	20	21
SCIENCE Part I—Physics	50	46	265			
Part II—Chemistry	50	43	127	16	30	14
Part III—Biology & Health Science	50	38				
MATHEMATICS Paper I	50	35	67	20	20	20
Paper II	50	32				
TOTAL	600					

(Marks: 430 and above First Class with Distinction; 360 to 470 First Class; 300 to 359 Second Class; 210 to 299 Third Class.)

PASSED

Eligible for admission to courses of study in the Universities of Kerala subject to University regulations

N. SASIDHARAN
 Secretary, Board of Public Examinations, Kerala State.



UNIVERSITY OF CALICUT

SREEJITH - C

This is to certify that appeared or the Second year Pre degree Examination held in April/September 1998 with optional subjects as shown below and has Passed/Completed the Examination in Class. The marks obtained by the candidate for the different subjects are shown below:

Name of Subjects	Mark awarded in figures/in words	Minimum marks required for a pass	Maximum marks	Whether Passed
PART A—ENGLISH	35 Three five	35	100	
PART B—ADDITIONAL LANGUAGE (Malayalam)	70 Seven zero	35	100	
PART C—OPTIONAL SUBJECTS				
Div. 1—Physics				
Theory	21		70	
Practical	26		30	
Total	47	35	100	
Div. 2—Chemistry				
Theory	29		70	
Practical	29		30	
Total	58 Five eight	35	100	
Div. 3—Mathematics/Biology				
Theory	26		70/100	
Practical	28		30	
Total	54 Five four	35	100	
TOTAL for PART C	159 one five nine	105	300	
GRAND TOTAL	264 two six four	175	500	

Note.—For a pass in subjects where there are practicals, the candidates, even if they secure the minimum marks required for a pass as shown in column 3, must appear for the Practical Examination also since Practical part of Examination is compulsory.

Marks entered by

Marks checked by

Controller of Examinations

AR/DR/JR (Exams)

UNIVERSITY OF CALICUT

Calicut University P. O.
673 635

Folio No 0007



25 JUL 2007
Dated.....

MEMORANDUM

The following marks were awarded to him/her at the Final Year B. Sc. Degree Examination of April/September.....2007.

(Reg. No.....) **1954**

Name of Subjects	Marks awarded	Minimum Marks required for a pass	Maximum marks
PART III OPTIONAL SUBJECTS			
GEOLOGY (Main),			
CHEMISTRY and			
<i>Physics</i>			
.....SUBSIDIARIES			
(a) MAIN SUBJECTS			
Paper I Physical Geology and Geomorphology & Environmental Geology	35	10	50
Paper II Crystallography and Mineralogy	36	10	50
Paper III Stratigraphy & Indian Geology	46	12	60
Paper IV Structural Geology & Geotectonics	36	12	60
Paper V Economic Geology	49	12	60
Paper VI Palaeontology & Sedimentology	47	12	60
Paper VII Igneous & Metamorphic Petrology	43	12	60
Total for theory	292	120/140	400
Practical & Records	171	(0/70)	200
Total for Part III Main subject	463	210	600
(b) SUBSIDIARY SUBJECTS			
1 Chemistry Paper I } B/F	120	70	200
Paper II } (including practical & records)			
2 <i>Physics</i> Paper I } B/F	129	70	200
Paper II } (including practical & records)			
GRAND TOTAL	712		1000
	(Sev. One, Two)		

To Shri/Smt. SREESHITH. C

[Signature]
Controller of Examinations

Marks entered by.....

Marks checked by.....

CUP/617/2000/50x5

~~S. O.~~

A. R. D. R. (Exams.)
(P. T. O.)



FACULTY OF SCIENCE

Whereas it has been certified by duly appointed Examiners that

Sreejith C

is qualified to receive the Degree of Bachelor of Science, he/she having passed and been placed
 in Third Class in Part I – English,
 in First Class in Part II – Second Language (Malayalam) and
 in First Class in Part III – Optional Subjects Geology Main and
Chemistry and Physics Subsidiaries in
April 2000, April 2000, April 2001 respectively.

Reg. No. and Year Part I	<u>1954</u>	<u>April</u>	<u>2000</u>
Reg. No. and Year Part II	<u>1954</u>	<u>April</u>	<u>2000</u>
Reg. No. and Year Part III	<u>1954</u>	<u>April</u>	<u>2001</u>

The Senate of the University of Calicut hereby confers on him/her the Degree of

Bachelor of Science


with all the Rights, Privileges and Honours thereunto appertaining.

Given under the seal of the University



CALICUT UNIVERSITY
673 635

Date 29-6-2002.


VICE-CHANCELLOR



UNIVERSITY OF CALICUT

STATEMENT OF MARKS

Dated : 31.12.2003

Name : SREEJITH C.
Course : M.Sc. APPLIED GEOLOGY
Fourth Semester Examination

Register Number : POABMAG010
Month & Year : September, 2003

Code	Paper	Marks Awarded			Maximum Marks			Result
		External	Internal	Total	External	Internal	Total	
MAG401	HYDROGEOLOGY	52	19	71	80	20	100	PASSED
MAG402	MINING AND ENGINEERING GEOLOGY	48	19	67	80	20	100	PASSED
MAG403	EXPLORATION GEOLOGY AND GEOPHYSICS	44	16	60	80	20	100	PASSED
MAG404	PRACTICAL IV HYDROGEOLOGY, ENGINEERING GEOLOGY AND EXPLORATION GEOLOGY	74	19	93	80	20	100	PASSED
MAG405	PRACTICAL RECORD IV	--	9	9	--	10	10	PASSED
MAG406	DISSERTATION	90	-	90	100	-	100	PASSED
MAG407	COLLECTION	29	-	29	30	-	30	PASSED
MAG408	VIVA VOCE	39	9	48	40	10	50	PASSED
Fourth Semester Examination (9/2003)		467			590			PASSED
First Semester Examination (4/2002)		348			460			PASSED
Second Semester Examination (10/2002)		305			460			PASSED
Third Semester Examination (4/2003)		356			490			PASSED
Grand Total		1476			2000			PASSED
Class Secured : First Class								

Note : Pass minimum - 40 % in external & 40 % in Aggregate

* End of the statement *



Controller of Examinations

Checked by

Section Officer

AR/DR (Exams)

University of Calicut

FACULTY OF SCIENCE

Whereas it has been certified by duly appointed Examiners that

..... *Sreejith C.*

is qualified to receive the Degree of Master of Science (M. Sc.)

in Branch..... *Applied Geology*

he/she having been placed in..... *First*

..... Class at the Examinations

held in..... *September, 2003*..... (Reg. No. *POABMAG 010*.....)

The Senate of the University of Calicut hereby confers on him/her the Degree of

Master of Science

with all the Rights, Privileges and Honours thereunto appertaining

Given under the seal of the University.



CALICUT UNIVERSITY
673 635

Date *20.04.04*

Praveen
VICE-CHANCELLOR

UNIVERSITY OF CALICUT

Folio No. 171



Calicut University P. O.
673 635

EB.

Dated..... 01.12.04

RANK CERTIFICATE

Certified that Sreejith C.
Candidate with Register Number POABMAG 010 for
MSc Applied Geology Examination
of September, 2003..... has passed the above examination
in first Class and secured the third Rank.

Controller of Examinations





FACULTY OF SCIENCE

*The Senate of the University of Kerala hereby makes known that **Sreejith C.** has been admitted to the Degree of Doctor of Philosophy, he having been certified by duly appointed examiners to be qualified to receive the same.*

*Subject **Geology***

*Title of the Thesis **EVOLUTION OF THE LOWER CRUST IN THE KERALA KHONDALITE BELT [KKB], SOUTHERN INDIA: PETROLOGICAL AND GEOCHEMICAL CONSTRAINTS AND INSIGHTS INTO A NEW ARC-ACCRETION MODEL***

Date of Award: 10/04/2015

Given under the seal of the University

University Buildings

Thiruvananthapuram September 19, 2015



Vice Chancellor

**NOTIFICATION
AWARD OF RESEARCH DEGREE**

No.Ac.E./1/3/15

It is hereby notified that the Vice-Chancellor in exercise of the powers and functions of the Syndicate, vested in him vide Section 10 (13) of the Kerala University Act, 197 considered on 10-04-2015 the reports and recommendations of the Board of Examiners appointed to adjudicate the Ph.D theses submitted by the following Research Students as Candidates, and resolved to accept the recommendations and to declare the candidates eligible for the award of the Degree of Ph.D., in the Subjects and Faculties noted against the names subject to reporting to the Syndicate.

University Buildings,
Thiruvananthapuram
13.04.2015

Sl.No	Name and Address of the Candidates	Name and Address of the Supervising Teachers	Reg. No.	Subjects	Title of the thesis.
1	Aswathy. B K.P. House Kudappanamedu. P.O. Vellarada, Thiruvananthapuram,695510	3 <u>FACULTY OF SCIENCE</u> Dr. Sony George Asst. Professor, Department of Chemistry, University of Kerala, Kariavattom, Trivandrum.	4 8817	5 Chemistry	6 DEVELOPMENT OF FUNCTIONALIZED GOLD NANOSTRUCTURES FOR SENSING AND SURFACE ENHANCED RAMAN SPECTROSCOPIC APPLICATIONS
2	Thankachan, K.V Christ Hall Monastery Kowdiar, Thiruvananthapuram,3	Dr. Joseph Mathew, Department of Chemistry, Mar Ivanios College, & Dr. Sabulal Baby, JN Tropical Botanical Gardens, Palode, Trivandrum.	8822	Chemistry	Chemical Profiling and Biological Activity Studies of Citrus Volatile Oils from South India.
3	Scheelamol, J.N. Shilpina Malai, R.C. Church Road, Kavankulam. P.O., 690502.	Dr. S.M.A. Shibli Associate Professor Department of Chemistry, University of Kerala, Kariavattom.	8697	Chemistry	Development and evaluation of TiO ₂ based catalytic composite incorporated Ni-P coatings for electrochemical hydrogen generation.

1	2	3	4	5	6
4	Ramya A.R *Athira* Ramnagar, Anandashram, P.O., Kasargode Dist. 671531	Dr. M.L.P. Reddy Chief Scientist NIIST, Trivandrum. 19	8894	Chemistry	DESIGN AND DEVELOPMENT OF EFFICIENT PHOTOSENSITIZERS FOR LN ³ IONS BASED ON AROMATIC CARBOXYLATES.
5	Lekha, S.D. T.C.36/95 Kamalalayam, Karali Road, Vallakkadavu, P.O., Trivandrum. 695008	Dr. P. Indrasenan Professor & former Head Department of Chemistry, University of Kerala.	8859	Chemistry	THERMAL DECOMPOSITION STUDIES OF SOME BENZOIC ACIDS AND THEIR METAL DERIVATIVES.
6	Divya Jayan Pradeep Bhavan Ponukkonoor, Alummoodu, P.O., Kollam. 691577	Dr. Anilha Kumari, V. Associate Professor & Head, Department of Chemistry, S.N. College for Women, Kollam.	8779	Chemistry	FERRETE MODIFIED GLASSY CARBON ELECTRODE FOR THE SELECTIVE DETECTION OF ACETAMINOPHEN.
7	Sambha M. Roy Royal Dale Aramada P.O., Thiruvananthapuram. 695032	Dr. M.R. Sudarsana Kumar, Associate Professor, Department of Chemistry, M.G. College, Trivandrum.	8825	Chemistry	STUDIES ON METAL AMBROUNZIATES NITROBENZATES, CINNAMATES AND HIPPURATES
8	John Berlin, I Vazha Vizhakam Vavarai, ST Mankad, P.O. Kanyakumari, Dist. 629172.	Dr. K. Joy Research Guide, Thin Film Lab, Mar Ivanios College, Trivandrum.	8791	Physics	SYNTHESIS OF NANO CRYSTALLINE ZIRCONIA THIN FILMS DOPED WITH METALS BY SO-GEL, DIP COATING METHOD AND THEIR CHARACTERISATION
9	Priya, R.S. Theppil Veedu, Perunguzhi, P.O., Thiruvananthapuram 695305.	Dr. P. Yageen Thomas, UGC, Emeritus fellow, Department of Statistics, University of Kerala.	8876	Statistics	Study of Some Estimation Problems Using Order Statistics.

1	2	3	4	5	6
10.	Praveen. V.P. 'Asheervad' Champad. P.O., Thalassery, Kannur. 670694	Dr. Mathew M. Oommen, Professor, Department of Zoology, University of Kerala & Dr. T.S. Nayar, Head, Divn. of Conservation Biology, TBGRI	8784	Zoology	THE ROLE OF BRACHYURAN CRABS IN STRUCTURE, COMPOSITION AND RECRUITMENT OF MANGROVE FORESTS IN KERALA
11.	Razeena Karim .L Vattavila Veedu Vellayani Junction Nemom . P.O., Tvpm .695020	Dr. Cherly William .E Associate Professor Dept. of Zoology FMN College, Kollam	8917	Zoology	ECOBIOLOGICAL ASPECTS OF AN ESTUARINE FISH - LIZA PARSIA
12.	Manu .M . S Gayathry Sreenivasapuram .P.O Varkala, Tvpm - 695145	Dr. S. Anirudhan Professor (Rtd.) Dept. of Geology University of Kerala.	8710	Geology	Hydrogeological Studies of Achankovil River Basin, Southern Kerala, India.
13.	Sreejith .C Ajith Nivas Edappal .P.O., Malappuram - 679576.	Dr. G.R. Ravindra Kumar Scientist F Geosciences Division CESS Akkulam, Tvpm -11	8808	Geology	EVOLUTION OF THE LOWER CRUST IN THE KERALA KHONDALITE BELT (KKB). SOUTHERN INDIA: PETROLOGICAL AND GEOCHEMICAL CONSTRAINTS AND INSIGHTS INTO A NEW ARC - ACCRETION MODEL
14.	Anet Panakkal Panakkal House Maria Residential Complex , Irinjalakuda (N) Thrissur - 680125	Dr. R .B .Binoj Kumar Assistant Professor Dept. of Geology, Kariavattom.	8872	Geology	Landscape Alteration and Urban Hydrogeology of Parts of Thrissur District, Kerala, India

1	2	3	4	5	6
15.	Anil Kumar .J T.C 4/220-1 Kuravankonam, Kowdiar .P.O., Tvpm - 695003	Dr. R. Anilkumar Associate Professor University College, Tvpm.	8708	Geography	Land Degradation in Highlands : A Study in Idukki district of Kerala
16.	Abhilash . P. A Research Scholar Dept. of Biochemistry University of Kerala Kariavattom	Dr. M. Indira Associate Professor Dept. of Biochemistry University of Kerala	8812	Biochemistry	Impact of ascorbic acid in the regression of alcohol induced hepatotoxicity in guinea pigs
17.	Seena Gopinathan "Soubhagya" #86 Upasana Nagar Cantonment North Kollam - 691001	Dr. V. Girija Devi Regional Director, IGNOU Karamana . P.O Tvpm.	8656	Home Science	EMERGING TRENDS IN THE FOOD CONSUMPTION BEHAVIOUR OF ADOLESCENT GIRLS.
18.	Sasikumar .N Madhavi Sadanam Kareepna, Kuzhimathicadu.P.O Kollam	Dr. P. Mohanachandran Nair Head, Dept. of Demography	8804	Demography	The role of family structure on Ageing in Kerala : A micro- simulation approach
19.	Tincy K. Thomas Kottarathil (H) Erumely, Kottayam - 686509	<u>FACULTY OF APPLIED SCIENCES & TECHNOLOGY</u> Dr.A. Jayakumaran Nair HOD, Dept. of Biotechnology University of Kerala	8747	Biotechnology	Biochemical and Molecular Investigation of Haemagglutinin- Neuraminidase Envelope Glycoprotein Involved in Newcastle Disease of Chicken

1	2	3	4	5	6
20.	<p>Veena Somasundaram F/A/13, Lakshmi Kripa Satellite Township Kakkad, P.O., Padamugai Kochi - 682030</p>	<p>Dr. Priya Srinivas Scientist II Rajiv Gandhi Centre for Biotechnology Thycaud .P.O., Co-Guide : Dr. S. Asha Nair Scientist EII, RGCB, Tvpm</p>	8869	Biotechnology	Isolation, characterization and therapeutic interventions of breast cancer stem cells from BRCA 1 defective breast cancer
21.	<p>Santhi.S "Shanti", TC 20/1492 Sasrinagar, IN -- 31 Karamana, Tvpm</p>	<p>Dr. Ravindran Ankathil Dr. Hariharan, S Asst. Professor, RCC Tvpm</p>	8794	Biotechnology	Clinical relevance of cytogenetics and molecular studies in patients with Acute Myeloid Leukemia
22.	<p>Kamala. S T.C 37156 East Fort, Pazhavangadi Tvpm - 695023</p>	<p>Dr. T. Magesh Kumar Principal Scientist, CTCRI Tvpm -- 695017</p>	8925	Biotechnology	Diagnosis and management of Dasheen mosaic virus infecting Amorphophallus proconifolius through biotechnological approaches
23.	<p>Najee . M "Salmar" Kureepuzha, P.O Perumad, Kollam -- 691601</p>	<p><u>FACULTY OF ENGINEERING & TECHNOLOGY</u> Dr. M.C.Philipose Sainyits College of Engineering Pathamuttam .P.O Kottayam -- 686532</p>	8613	Civil Engineering	Impact Assessment and Mitigation of Water Pollution of Ashlammudi Estuary due to Retting and Other Anthropogenic Activities

1	2	3	4	5	6
24.	Lizy Abraham 'Lushes' NRA B17, Njandoorkonam Chempazhanthi, P.O Tvpm.-695587	Dr. M. Sasikumar Professor & HOD Dept. of ECE, Marian Engineering College Kazhakkuttom - 695587	8830	Electronics and Communication Engineering	Study and Analysis of Satellite images for the extraction of structural features
25.	Nadera Beevi.S Darusalam Thempurvayil	Dr. D. Chitra Prasad, Professor & Head, TKM College, Kollam & Dr. Vinod Chandra.S.S. Director, Computer Centre, University of Kerala.	8864	Computer Science	A meta Framework for automating program transformation
26.	Aravind, A Kamal Raj TC 40/431 (1) Manacadu .P.O Tvpm.-695009	<u>FACULTY OF MEDICINE</u> Dr. K. Santhosh Kumar Scientist EII Chemical Biology Division RCCB, Tvpm.	8905	Pharmaceutical Sciences	DESIGN AND DEVELOPMENT OF POLY ALKYL ETHER BASED MULTIFUNCTIONAL HENDRITIC NANOCARRIER FOR TARGET SPECIFIC DRUG DELIVERY
27	Dhanya.R.K TC 26/1721, PRA T - 42 Kannankara Veedu Tank Road, Tvpm - I	<u>FACULTY OF FINE ARTS</u> Dr. Bhagya Lekshmi. S Sub Editor State Institute of Children's Literature	8410	Music	A Study on the Life and Contributions of Subha Rama Dikshitar - The last scion of Dikshitar family



[Signature]
REGISTRAR

Copy to: 1. The Professor, Head of 2. The Dean, Faculty of 3. The Librarians with compliments.
4. The Librarian, University Library with copy of the thesis. 5. The Registrar, University of Indian Universities, Rouse Avenue, New Delhi. I
6. The Public Relation Officer, University of Kerala, TVM. 7. The Academic Officer, University of Kerala, TVM. 8. The D.D Sn - 9. Ac.D.II Sn - 10. The Stock File/File Copy.



UNIVERSITY OF KERALA

Thiruvananthapuram, Kerala, India - 695034

(Established as University of Travancore by the Travancore University Act in 1937 and reconstituted as University of Kerala by the Kerala University Act of 1957 and presently governed by the Kerala University Act of 1974 passed by the Kerala State Legislative Assembly)
(Re-accredited by NAAC with 'A' Grade)

REGISTRAR.

Phone : 0471-2305631
Fax: +91-471-2307158
E-mail : regrku@gmail.com.

No. Ac.E.II/3/26719/15

Date: 30.05.2015

CERTIFICATE

Certified that **Dr. Sreejith. C** was awarded the Ph.D. Degree in **Geology** vide Syndicate decision **10.04.2015** under the faculty of **Science** for the thesis entitled, **"EVOLUTION OF THE LOWER CRUST IN THE KERALA KHONDALITE BELT (KKB), SOUTHERN INDIA: PETROLOGICAL AND GEOCHEMICAL CONSTRAINTS AND INSIGHTS INTO A NEW ARC-ACCRETION MODEL "**, after the evaluation of the thesis by three external examiners and after conducting Open Defence successfully.

Dr. Sreejith. C had registered for Ph.D in **July 2007** Session and was exempted from the course work as the course work was introduced only from July 2009.

REGISTRAR.

DIRECTOR (C.O.G.)
IN CHARGE

UNIVERSITY GRANTS COMMISSION ACADEMIC STAFF COLLEGE



UNIVERSITY OF KERALA

UGC-SPONSORED ORIENTATION PROGRAMME

CERTIFICATE OF PARTICIPATION

This is to certify that Mr. C. Sreejith, Assistant Professor, Dept. of PG Studies and Research in Geology, MES Ponnani College, Ponnani South P.O., Malappuram, participated in the UGC-Sponsored Orientation Programme (IT-Oriented) conducted by the UGC-Academic Staff College, University of Kerala, Kariavattom, Trivandrum, from 14-10-2014 to 10-11-2014. The Grade awarded isA.....



Kariavattom
10-11-2014

Director & Course Co-ordinator

Vice-Chancellor



Indian Academy of Sciences
Bangalore



Indian National Science Academy
New Delhi



The National Academy of Sciences, India
Allahabad

Science Academies'

Two-week Refresher Course on

Crystallography, Mineralogy, Igneous Petrology & Thermodynamics, Sedimentology and Economic Geology.

(11 – 24 December 2015) at IASc, Bangalore

Organized by

Indian Academy of Sciences, Bangalore, (IASc)
Indian National Science Academy, New Delhi, (INSA)
The National Academy of Sciences, India, Allahabad, (NASI)

This is to certify that

Dr C Sreejith
MES Ponnani College, Ponnani

*participated in this Refresher Course and completed
successfully.*

Arunagupte
Professor Alok K. Gupta
University of Allahabad
Course Director

T. D. Mahabaleswara
Dr T.D. Mahabaleswara

Co-ordinator (RC & LW)
Science Education Programme
Indian Academy of Sciences, Bangalore

Proforma-II

University of Calicut

Name of the College: M.E.S Ponnani College, Ponnani

STATEMENT SHOWING THE ALLOTMENT OF WORKLOAD AMONG THE TEACHING STAFF OF THE DEPARTMENT OF GEOLOGY

Sl. No.	Name of the Teacher	Designation	Lecture Work						Practical Work						Total Hours	
			B.Sc.			M.Sc.			B.Sc.			M.Sc.				
			I	II	III	I	II	III	I	II	III	I	II	III		
1	Dr. V.A. Ayisha	Associate Professor		1	2	4.5	4.5						1	1	1	16
2	Dr. V.K. Brijesh	Assistant Professor	1		2	4.5	4.5						1	1	1	16
3	Dr. C. Sreejith	Assistant Professor		1	2	4.5	4.5						1	1	1	16
4	Dr. V. Santhosh	Assistant Professor		1	2	3	3							5	1	16
5	P.K. Abdul Nafih	Assistant Professor	1		2	4.5	4.5							2	1	16
6	Dr. K.S. Arunkumar	Assistant Professor	1		2	3	3							5	1	16
7	Dr. M. Nithya	Assistant Professor			3	1.5	1.5						1	1	2	17
Total hours			3	3	15	25.5	25.5					1	4	20	8	113

Head of the Department

Principal



Internal Quality Assurance Cell

MES Ponnani College

Affiliated to the University of Calicut.

Ponnani South P.O, Malappuram (Dist), Kerala - 679586

Web: www.mesponnanicollege.org; email: principal.mesponnani@gmail.com

Date: 23-11-2018

Consolidated Certificate for Internal Responsibilities of Teachers

Name : Dr. C. Sreejith
Designation : Assistant Professor
Department : PG Studies & Research in Geology
Assessment Period : 21-02-2011 to 10-04-2015
Time Period of Activities : 2011 - 2012

SI No.	Claims of the Teacher	Record of Reference	Remarks
1.	Teaching workload	Workload of Geology department as per University Proforma II	
2.	Examination invigilation/ conduct of practical examinations – Duties assigned by home university and other universities	Exam duty register; Duty certificates	
3.	Question paper setting, valuation of answer scripts and invigilation duty of internal examinations	Question paper and internal assessment registers	
4.	Attendance in CV Camps of University Examinations	Duty certificates	
5.	Member of the organizing committee, College Arts festival & Sports Day, duties related to Students Union, and other departmental activities	College Reports; Minutes of College Council/ Department Council	
6.	Presiding Officer; Elections to State Legislative Assembly	Order of the Election Commission of Kerala	
7.	Member of Library committee and in-charge of College Calendar and handbook preparation	Minutes of College Council/ Staff Club	

Certified that the information given-above are verified with records of reference cited in each item and found correct.

Dr. V.K. Brijesh
IQAC Coordinator

Capt. M.N. Mohamed Koya
Principal



Geological Society of India

Date: September 10, 2009

To

Mr. C. Sreejith
Research Scholar
Petrology Lab
Geosciences Division (GSD)
Centre for Earth Science Studies (CESS)
Thuruvikkal – P.O., Akkulam
Thiruvananthapuram – 695 031
Kerala

Sub: Your Life Membership in the Geological Society of India

Dear Sir,

We are extremely happy to welcome you to fraternity as a Life Member. You may kindly quote your **Life Membership No. 1572** in all your correspondence with the Geological Society of India.

The Receipt No. 4876 dt. 9th September 2009 in acknowledgement of your payment of Rs. 12,000/- (Rupees Twelve Thousand only).

Thanking you again and with best regards,

Yours sincerely,


(R.H. SAWKAR)

Growth and evolution of the Kerala Khondalite Belt, Southern India: mineral and whole-rock chemical evidence for intracrustal melting and magmatic petrogenesis.

G.R. Ravindra Kumar^{1*}, C. Sreejith^{1,2}

¹Geosciences Division, Centre for Earth Science Studies, Trivandrum, Kerala-695 011, India.

²Department of P.G. Studies & Research in Geology, M.E.S. College, Ponnani, Kerala-679 586, India

E-mail addresses: *grrkumar@gmail.com; ²sreejithedapal@gmail.com

Abstract: The Kerala Khondalite Belt (KKB) constitutes an important lower crustal segment in the southern Indian granulite terrain. Dominant rock types, except sillimanite bearing gneisses, are classified as sodic and potassic granitoids and a general supracrustal origin is ascribed to these rocks. We present here new results from our studies on mineral and whole rock major- and trace element and REE systematic of major litho units of the belt. We address the petrogenesis, physical conditions during crystallization and tectonic setting of KKB rocks.

Introduction

The mineralogical compositions of granitoids are controlled by a number of factors, such as magma composition, differentiation processes, variable magmatic source, and physical conditions of host magma (e.g., Clarke, 1981; Clarke, 1992). Consequently, the chemical composition of minerals in an equilibrium assemblage can provide information on protoliths, melting processes, and oxygen fugacity (fO_2) and P - T conditions of crystallization of the magma. Recent studies have shown the potential of mineral chemistry data to deduce information on magma series and the physico-chemical conditions of crystallization (Wones and Eugster, 1965).

Granitoids (gneiss and variants of charnockites) makeup more than 70% of exposed rock types in KKB. They are classified as sodic and potassic groups based on K_2O/Na_2O ratios. The study of high-grade rocks exposed along the KKB, therefore, offers a good opportunity to evaluate the nature and evolution of the continental crust. Mineral chemical analysis of granitoids, especially biotites from different groups document igneous parentage and as potential indicator of nature of the magma.

In this paper, we assess the regular changes in chemistry of primary minerals in massive charnockites, integrating available

petrological and isotope data, to constrain the petrogenetic process associated with the evolution of lower crustal segment of the KKB. We demonstrate systematic variation in mineral composition of granulites in fact represent crustal melting and differentiation. Based on the mineral chemistry, we suggest a continental magmatic arc setting for the origin of KKB granitoids.

Geological setting

The KKB essentially comprises of garnet and biotite bearing quartzo-feldspathic gneisses, sillimanite and graphite bearing metapelites (khondalites), garnet-cordierite (\pm orthopyroxene) granulites, calc-granulites, marbles, quartzites, mafic granulites, and orthopyroxene granulites, including charnockites and enderbites. KKB is divided into three distinct lithotectonic units; the central Ponmudi Unit (PU), southern Nagerkovil Unit (NU), and the northern Achankovil Unit (AU) (Braun and Kriegsman, 2003).

The T_{DM} from the PU of the KKB ranges from 2.1 to 3.0 Ga and NU from 2.1 to 2.57 Ga (Brandon and Meen, 1995; Bartlett et al., 1998). The boundary between these domains with Madurai Block is marked by the AU a \sim 30 km wide zone with much younger T_{DM} (ranging from 1.2 to 1.5 Ga; Braun and Kriegsman, 2003). Single zircon evaporation and EPMA monazite ages suggest that all the three units experienced a thermal event possibly under upper-amphibolite facies at \sim 1800Ma (Braun et al., 1998). As documented by various geochronological methods, the last major tectono-metamorphic event recorded in the KKB is of Pan-African age (560–516 Ma; Bartlett et al., 1998; Braun et al., 1998; Braun and Bröcker, 2004).

Mineral and whole-rock chemistry

Biotites from sodic group are Mg^{2+} -rich (X_{Mg} :0.47–0.63), denote calc-alkaline host in contrast to those from potassic groups, which

are Fe^{2+} -types with much lower X_{Mg} (0.37–0.44) and suggest an alkaline host. Biotites in potassic group are poorer in Al_2O_3 than sodic, indicating evolved nature of the magmatic protolith. Decrease in ΣAl with increasing $Fe/(Fe+Mg)$ values of biotites indicate progressive oxidising condition during magma evolution. Compositional variation of biotite allow us to speculate that the host magmas of sodic charnockites as calc-alkaline, arc-type with features typical of Archaean TTGs and potassic groups as partial melts of meta-igneous lower crust with little mantle contribution.

Discussion

The garnet end member compositions in the two rock suits differ. Since both the groups have experienced Pan-African (high-grade) tectonothermal event, these compositional differences can be ascribed to the original source rock character rather than metamorphic grade. Garnets in silicic, calc-alkaline volcanic and plutonic rocks are typically almandine- and/or spessartine-rich, while pyrope end-member is sometimes significant (Miyashiro, 1955). The sodic charnockites has more of pyrope than potassic group. Garnets from both rock types contain some spessartine (<5%) end member. The spessartine content is significant in the case of potassic charnockites, while it is too low in sodic group. The higher Mn content of the garnets in the potassic charnockites, compared with those from sodic group may be attributed to magma generation at slightly elevated depths (Stone, 1988), or it may reflect the apparently more highly evolved chemistry and a lower crustal differentiation (Whitworth and Feely, 1994).

Experimental data suggest that the charge balanced substitution of $Al^{VI}Al^{IV}$ for $MgSi$ in orthopyroxene proceed according to bulk composition and temperature. Following this, Carrington and Harley (1995) substantiated by natural and experimental observations suggested that extensive Tschermak

substitutions in metapelites under extreme temperature conditions will result in a highly aluminous orthopyroxene. These observations, along with the present set of data, provide an opportunity to rethink about the protolith of the varieties of charnockites observed in KKB. There are reports of ultra-high temperature (UHT) metamorphic imprints on the lithounits of AU of the KKB (Cenki et al., 2002; Ishii et al., 2006). If we were to consider the protoliths of potassic and augen charnockites (samples from the AU) as metasediments, then we need to have more Al-rich orthopyroxene in them. In the present samples, the Al content from augen and potassic charnockites is very low in spite of experiencing a high-temperature event. This suggests that the lower Al content in orthopyroxene is inherited from the protolith composition and not due to metamorphic exchange. Thus, the low Al content can be an indication of more evolved nature of the magmatic protolith. Another noticeable feature is the general trend of decreasing X_{Mg} from sodic to potassic types with lowering Al content in the pyroxenes showing progressive differentiation.

The lithological units within the crustal blocks in southern India have all been subjected to late Neoproterozoic–Cambrian high grade metamorphism, which has obliterated the primary structure and to some extent the protolith history. However, with careful observation, we were able to discriminate primary magmatic biotite from the KKB charnockites (Fig. 1). Physico-chemical conditions such as pressure, temperature, oxygen fugacity and composition of the magma readily influence the composition of primary biotite, providing valuable petrogenetic information about the formation condition (Speer, 1984). Consequently, we have selected biotite composition from KKB charnockites as markers of magma composition and petrogenesis.

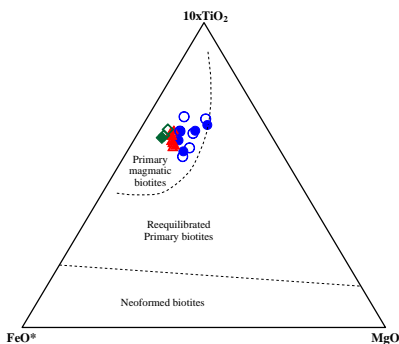


Fig. 1. Ternary $10 \times \text{TiO}_2$ - FeO^* - MgO discrimination diagram of biotites from the KKB granitoids (Nacht et al. 2005). $\text{FeO}^* = (\text{FeO} + \text{MnO})$

Biotite composition can be approximated by the end members representing the simple

substitution $\text{Mg} = \text{Fe}^{2+}$ and coupled substitution $\text{Al}^{\text{VI}} + \text{Al}^{\text{IV}} = (\text{Fe}^{2+}; \text{Mg}) + \text{Si}$. Speer (1984) demonstrated the compositional relationships of trioctahedral micas in the Annite – Siderophyllite – Phlogopite – Eastonite (ASPE) quadrilateral taking into account the variation of total Al and $\text{Fe}^{2+}/(\text{Fe}^{2+} + \text{Mg})$. Both parameters are sensitive indicators of conditions that prevailed in the host magmas. In the ASPE quadrilateral (Fig. 2), biotite compositions from the potassic charnockites show a trend defined by a prominent decrease in both $\text{Fe}^{2+}/(\text{Fe}^{2+} + \text{Mg})$ values and total Al values implying more oxidising conditions with lesser contribution of crust.

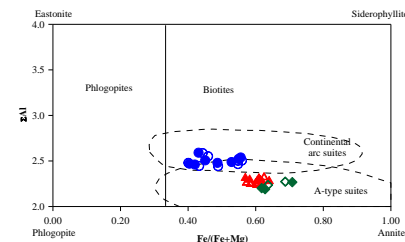


Fig. 2. Composition of biotite from KKB granitoids expressed in the annite-siderophyllite-phlogopite-eastonite (ASPE) quadrilateral. $\text{Fe} =$ total iron, *i.e.*, $\text{Fe}^{2+} + \text{Fe}^{3+}$. The compositional fields of suites are from Lalonde and Bernard (1993).

Leake (1974) found that the $\text{Fe}/(\text{Fe} + \text{Mg})$ content of biotite increases with magmatic differentiation and evolution. In general, biotite from the charnockites of KKB show enrichment of $\text{Fe}/(\text{Fe} + \text{Mg})$ towards potassic variety indicating the evolved nature of this unit, with a general trend of magmatic differentiation (Speer, 1984). The highest X_{Fe} of biotite occurs in the most felsic samples and probably reflects the Mg-poor nature of the more evolved granitoid magma (Albaréde, 1998). While considering stage of reequilibration, the variation of X_{Fe} is very important. In coexisting mineral assemblages, during metamorphism, the variation in X_{Fe} involves simple Fe-Mg exchange, however, commonly involves an increase in Mn as Mg increases. But in the present case almost all the samples show limited range of Mn even though large variation is noticeable in Fe/Mg ratio indicating a stage of magmatic differentiation.

Oxygen fugacity

Oxygen fugacity (f_{O_2}) of the host rock is one of the most important factors that tell about the magma composition and evolution (see for e.g., Ishihara, 1977). Wones and Eugster (1965) demonstrated the potential of Fe^{3+} content and $\text{Fe}/(\text{Fe} + \text{Mg})$ ratio of biotite to provide relative information about the f_{O_2} during crystallization. Prominent decrease in ΣAl with increasing $\text{Fe}/(\text{Fe} + \text{Mg})$ values of

biotite indicate progressive oxidising condition during magma evolution from sodic to potassic groups. In general, the composition of biotite from both the groups define oxidations in late stages, indicated by general trend of Fe^{3+} (or total iron) enrichment. The ternary Fe^{3+} - Fe^{2+} -Mg (Wones and Eugster, 1965) diagram along with the three common f_{O_2} buffers quartz-fayalite-magnetite (QFM), nickel-nickel oxide (NNO) and hematite-magnetite (HM) plotted from the compositions of biotite shows a buffer curve giving an estimate of the f_{O_2} for the host magma. The plots of the KKB biotite on the Wones and Eugster (1965) diagram (Fig. 3) delineate the compositions with f_{O_2} in between QFM and HM buffer. The potassic group defines compositions with f_{O_2} slightly higher than Ni-NiO buffer, indicating moderately oxidising conditions, while the sodic groups suggest f_{O_2} between QFM and Ni-NiO buffer, closely following that for the Ni-NiO, implying a low oxidation level or reducing environment during crystallization.

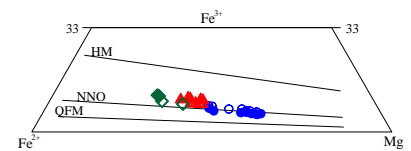


Fig. 3. KKB biotite composition in terms of Fe^{2+} - Fe^{3+} -Mg discrimination diagram of Wones and Eugster (1965), along with the three common f_{O_2} buffers: quartz-fayalite-magnetite (QFM), nickel-nickel oxide (NNO), and hematite-magnetite (HM)

The variation in biotite composition in different groups of granitoids is related to the chemical factors in the magma and the physical conditions of crystallization such as f_{O_2} . The nature of biotite and f_{O_2} conditions of the KKB granitoids can be compared to those in the Japanese magnetite- and ilmenite-series granites. Ishihara (1977) suggested this classification scheme based on the differences in oxygen fugacity during magma evolution, the ilmenite-series granites being reduced or with low oxidized levels and the magnetite-series oxidized. The sodic group, which crystallised in fairly reducing environment, is similar to the ilmenite-series granites. Similarly, the more oxidised potassic group show affinity to magnetite series. Ishihara (1977) proposed crustal origin for the ilmenite-series magmas frequently mixed with carbon-bearing rocks and lower crustal origin for the magnetite-series. Later studies (Ishihara and Matsuhima, 1999) linked the ilmenite-series granitoids to magmas formed by partial melting of mantle derived amphibolites with or without crustal contributions (e.g., shale, greywacke). It is also suggested that the heat from upper mantle or basaltic underpaling may be responsible for

the production of magnetite-series by intracrustal melting of TTG (Ishihara et al., 2006).

Summary and conclusions

The sodic group has geochemical affinity to Archaean tonalities with low-K, calc-alkaline, metaluminous to peraluminous chemistry. Compositionally contrasting K-rich rocks are essentially of granitic composition. Most oxides in both the groups, with exceptions of K₂O and Na₂O, show negative correlation with SiO₂. The sodic group is enriched in Sr and depleted in Rb and Th. They exhibit geochemical features similar to those of Archaean tonalite and trondhjemite with enriched LREE and depleted HREE with positive and/or no Eu anomaly. On the other hand, potassic group show enrichment in large ion lithophile elements in relation to the high field strength (HFS) elements and sharp negative anomalies of Nb, Sr, Zr, and Ti with fractionated REE patterns and sharp negative Eu anomalies, implying significant fractionation of plagioclase into the residue and strong effects of intracrustal differentiation.

Complementary patterns of Eu and Sr anomalies in both groups, also suggest an event of intracrustal magmatic differentiation in the presence of plagioclase. The most plausible tectonic model that explains the generation of sodic group is through melting of hydrous basaltic material at the base of a thick crust and that of potassic granitoids by partial melting of meta-igneous source rocks. The new mineral data integrated in a

petrogenetic model indicate that the lower crust of KKB was formed in an arc-accretion setting. We speculate subduction zone related arc accretion setting followed by intracrustal melting for the evolution of KKB.

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Remelting of tonalitic crust and genesis of high-K granitoid during arc-accretion: evidence for crustal reworking in the Kerala Khondalite Belt

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Abstract

The high-K calc-alkaline rocks constitute a major portion of the post-Archaean granitoids around the globe. They are very common in orogenic belts (Continental arc) as well in post-collisional (Caledonian-type) tectonic setting (Bonin, 1990; Roberts and Clemens, 1993). These contrasting settings and petrogenetic diversity have invoked great interest among petrologists to better define the origin and decipher geodynamic significance of these granitoids. In this contribution, we present new petrological and geochemical data integrated with available geochronology of the high-K granitoids of the Kerala Khondalite Belt (KKB), and attempts to define the nature and origin of these granitoids for constraining their geodynamic setting. The KKB region of the southern granulite terrain (SGT) is particularly interesting for the study of high-K granitoid genesis because it provides an opportunity to examine the close association of these granitoids with their supposed tonalitic protolith. The petrological and geochemical evidences provide insights into possible arc-accretion processes that contributed to crustal reworking and formation of the granitic magmas. Further, the study presents key geochemical fingerprints for regional comparison of the widespread arc-related magma genesis in neighbouring continental fragments including Sri Lanka and Madagascar.

Petrology, Geochemistry, and Petrogenesis

The high-K granitoids of are interlayered with their supposed tonalitic protolith in meter to kilometer scale and occur dominantly towards south and southwestern part of the KKB. In field, they are medium to coarse-grained with marked inequigranularity of the minerals, foliation, and preferred orientation of the feldspar and biotite grains. The granitic texture is vastly modified by high-grade metamorphism and deformation. The mineral assemblages in high-K granitoids are essentially made up of quartz, alkali feldspar, plagioclase, garnet, biotite, and minor amounts of zircon and opaque minerals.

The best complementary major element pattern in the two rock groups is exhibited by alkali contents. Obviously, the

K_2O/Na_2O is higher (>1) in high-K granitoids while Na_2O content is more in tonalites. The high-K granitoids have a narrow silica range (64–73 wt %), high K_2O/Na_2O ratios (1.08–3.34), with all samples showing high-K affiliation. They are characterised by low Nb/La (0.07–0.27) and La/Th (1.60–5.71) ratios and showing highly fractionated REE pattern with $(La/Yb)_N$ ratios of 9–35, caused by enrichment in the LREE. A distinctive feature for the high-K metagranitoids is the strong negative Eu anomaly ($Eu/Eu^* = 0.10–0.44$). The geochemistry suggests distinctive features of arc-related magmas with LILE (K, Rb, and Th) and LREE enriched patterns and considerable troughs of HSFE (Nb, Zr, and Ti). This is suggestive of magmatic differentiation process for their generation. The marked depletion in Nb and Sr content characterise them as typical crustal derived magmas (Deniel et al. 1987). Further, the Sr-depleted and Y-undepleted nature along with the strong negative Eu anomaly suggest melting of source materials in plagioclase stability field and retention of plagioclase in the residual phase. Overall the geochemical features of high-K granitoids are supportive of origin in relation to a convergent margin setting, pointing to an important petrogenetic role of remelting and differentiation of arc-accretionary complex crust.

The available geochronological data from this terrain direct to multiple stages of metamorphism and crustal growth (reviewed in Braun and Kriegsman, 2003). The Nd model (T_{DM}) ages for both tonalitic and high-K granitoids spans from 3.0–2.1 Ga. We note the older ages as the onset of magmatic accretion most possibly in Meso- or Late-Archaean age. During this stage, fractional crystallization or melting of the basaltic protolith given rise to calc-alkaline magma representing the first stage of crustal growth, which has crystallised into Na-rich type showing prominent affinity to tonalites. There are evidences of a thermal event reaching granulite-grade during the Palaeoproterozoic–Mesoproterozoic transition in the lower crustal granulites of KKB (Bartlett et al., 1998). The best tectonic setting for the generation of granulites have been postulated as the magmatic arcs, where partial melting, with melt removal, act as a major mechanism for internal differentiation of the continental crust (Clemens 1990).

Consequently, the tonalitic crust experienced further differentiation by intracrustal melting in plagioclase stability fields resulting granitic melt extraction. The high Rb/Sr and low $(\text{Gd}/\text{Yb})_N$ with negative Eu anomalies of high-K granitoids are suggestive of intracrustal anatexis and partial melting of the precursors (Rudnick and Gao, 2003). The possibilities to attain heat source for this kind of voluminous intracrustal melting can either be restricted to a thickened crust or slab subduction environment. The LREE-enriched patterns with negative Eu anomalies observed in the KKB high-K granitoids are typical of many subduction related magmas from island arcs or active continental margins. This is well inline with the observed low Nb/La and Nb/Ta ratios, distinctive features of convergent plate margin magmatism, resulting from melting of igneous source in a subduction related environment.

Implications for Supercontinent assembly

The origin of high-K granitoids in relation to a magmatic arc-accretion scene provides important insights into the Proterozoic crustal development in Gondwana Supercontinent and important evidence for an improved fit to the once contiguous fragments of Gondwana. Data gathered in recent years, for e.g., models for the petrogenesis of granitoids have provided new filling and scope for reassessment of the geologic characteristics of each area, and their juxtaposition models. A two-stage collision model was proposed by Kehelpannala (2006) for the amalgamation of Wannai and Highland Complex with Vijayan complex. The arc accretion by two-stage collision was considered as the final mark in the assembly of Gondwana around Sri Lanka. Although, granitoids with continental magmatic arc affinity from south and central Madagascar (Brewer et al. 2001) were available, the arc accretion scenario was doubted in linking Sri Lanka and Madagascar with India, as there were no similar reports from southern India. The present

study, documenting hitherto unrecognized magmatic event in the KKB, comparable to the arc accretionary complex setting proposed for Sri Lanka and Madagascar acquires immense significance. We infer from the common magmatic activities documented in all these terrains that the arc-formation process was an important event associated with the supercontinent event.

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Geochemistry of K-feldspar megacryst granitoids of the Kerala Khondalite Belt: evidence for exposed roots of an accreted continental-arc system

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Abstract

The Kerala Khondalite Belt (KKB), composed of lower crustal granulite-facies rocks, forms an important Proterozoic mobile belt in the southern Indian granulite terrain (SGT). Earlier workers (Srikantappa et al., 1985; Chacko et al., 1992) considered the whole terrain as of metasedimentary origin. Braun (2006) recognized within the KKB augen gneisses and high-K granitoids of magmatic origin. This observation was recently corroborated by Sreejith and Ravindra Kumar (2010) based on detailed field and geochemical exercise. These plutonic rocks are now understood to constitute an important lithological component in KKB and as source of records for the crustal recycling at an ancient continental margin, sutured to the central granulite block of SGT along Achankovil shear zone (ACZ). Here, we present geochemistry of the K-feldspar megacryst granitoids, which have been subsequently metamorphosed and deformed to augen gneisses, in an attempt to understand their role in the crustal evolution of KKB and to test the newly proposed arc-accretion model. Our new data constrains tectonic setting of the magmatism and favours a petrogenetic model involving reworked crust for the genesis of K-feldspar megacryst granitoids. The study traces the magmatic evolution in the lower crust of KKB corresponding to an accreted continental arc suite.

Introduction

The KKB, lying south of the ACZ has been recently subdivided into three distinct lithotectonic terranes, mainly based on discrete Nd model ages and lithological associations. The northern part made up of garnet-biotite gneisses and garnet-biotite-sillimanite (-cordierite) gneisses with significantly younger Nd model ages (1.7–1.3 Ga; Cenki et al., 2004) is recognized as the Achankovil Unit (AU). The central part, known as the Ponmudi Unit (PU) consists of migmatitic garnet-biotite gneisses and pelitic granulites. The magmatic high-K granitoids (Sreejith and Ravindra Kumar, 2010) along with sodic gneisses and khondalites (Chacko et al., 1992) comprise the major lithological components of the central part. Towards south, massive charnockites, enderbites and norites

with subordinate abundances of gneisses and metapelites make the Nagerkovil Unit (NU; Srikantappa et al., 1985).

The occurrences of K-feldspar megacryst granitoids are mainly restricted to the north central part of the KKB. Previous studies point out intrusion of these granitoids into supracrustal sequence prior to the regional ductile deformation and metamorphism. U-Pb TIMS and EPMA dating studies of Braun and Bröcker (2004) suggested an emplacement age of ~590 Ma for this porphyritic granite phase, predating the peak phase of Pan-African thermal event. Cenki et al. (2004) reported a very low initial ϵ_{Nd} value of -21.22 for these granitoids with $^{147}Sm/^{144}Nd$ ratios (0.07–0.12) indicating typical crustal protoliths. The computed T_{DM} for this K-feldspar megacryst granitoid is 2.5 Ga and is interpreted as the minimum crustal residence age of the protolith (Cenki et al., 2004).

Field setting

The granitoids are essentially granitic in composition, characterised by megacrysts of K-feldspar ranging from 1 to 2 cm in longest dimension with a distinct blastoporphyritic texture. The megacrysts are surrounded with fine- to medium-grained matrix of biotite, plagioclase, and quartz. Accessory minerals include garnet, ilmenite zircon. Another common texture is formed due to the deformation of K-feldspar megacrysts and its orientation forming mylonitic fabric. At places, the K-feldspar megacrysts are idiomorphic, without any preferred orientation, consequently cutting and warping the foliation. Myrmekites and vein perthites are present but not widespread. Some localities contain microgranular enclaves of the gneissic basement of the KKB clearly indicating a magmatic origin for these rocks.

Geochemistry

The bulk-rock concentrations of the K-feldspar megacryst granitoids show moderately to strongly peraluminous (alumina saturation index, ASI = 1.05 to 1.37) granitic composition with high SiO_2 (64–71 wt %) Fe_2O_3 (3.1–7.9 wt%), and K_2O (2.5–6.0 wt%) contents. All the samples are characterised by $K_2O/Na_2O > 1$ and very low abundances of high-field strength element

(e.g., average Nb content is up to 14 ppm and Zr is 493 ppm). They show marked enrichment in Ba (448–1200 ppm) and Rb (108–359 ppm) contents, while less abundance of Sr (82–185 ppm) and Pb (21–46). Available REE data (Braun 2006; and present study) indicate apparently uniform fractionation patterns with significant negative Eu anomalies. These granitoids exhibit typical enrichment in large ion lithophile (LIL) elements (e.g. Cs, Rb, Th, K, and U) and distinct negative anomalies for high field strength (HFS) elements (Nb and Ti) in a primitive mantle-normalized spidergram (figure not shown). The trace and REE patterns of these granitoids are compatible with a magmatic arc to collisional setting.

Conclusions

In summary, the field relations, petrology, and geochemistry of the K-feldspar megacryst granitoids are consistent with the possibility that they were derived predominantly by partial melting of metagneous lower crust along with metasedimentary precursors. The low initial ϵ_{Nd} -values and T_{DM} along with HSFE depletion support the origin of these granitoids by crustal anatexis. Most of the characteristic features of the granitoids, especially the peraluminous composition of their protolith, their association with sillimanite grade metamorphic rocks, extensive development of pegmatites and migmatites with granulite-facies mineral assemblage, substantiated by whole-rock composition and available isotope geochemistry of these granitoids compares with typical roots of a magmatic arc as proposed by Hamilton and Kröner (1981).

The protracted magmatic activity recorded in KKB given rise to the high-K granitoids (Sreejith and Ravindra Kumar, 2010) and K-feldspar megacryst granitoids (Braun, 2006 and this paper) can be related to subduction process. Therefore, the

present study support the continental arc scenario proposed earlier for the KKB granitoids suggesting the KKB as a remnant of active continental margin. Further, the time span between the generations of these two high-K calc-alkali granitoids is not clear. The distinct textural, mineralogical, and geochemical characteristics they exhibit may be representing different events for their genesis, as for instance, the high-k granitoids formed during arc accretion (Sreejith and Ravindra Kumar, 2010) and the recurrence of high-K calc-alkali megacryst granitoids as the product of subduction cessation.

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Consolidated Certificate for Internal Responsibilities of Teachers

Name : Dr. C. Sreejith
Designation : Assistant Professor
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Time Period of Activities : 2012 - 2013

SI No.	Claims of the Teacher	Record of Reference	Remarks
1.	Teaching workload	Workload as per University Proforma II	
2.	Examination invigilation/ conduct of practical examinations – Duties assigned by home university and other universities	Exam duty register; Duty certificates	
3.	Question paper setting, valuation of answer scripts and invigilation duty of internal examinations	Question paper and internal assessment registers	
4.	Attendance in CV Camps of University Examinations	Duty certificates	
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MnNCKFMASH Phase Relations in Cordierite–Orthopyroxene Migmatitic Gneisses, Southern India: Implications for Low-pressure Crustal Melting under Granulite-facies

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Abstract: Cordierite-orthopyroxene migmatitic gneisses exposed in Achankovil unit of the Kerala Khondalite Belt, southern India show evidences of melting, melt extraction and *in-situ* crystallization of melt under granulite-facies conditions. The sequential mineral assemblages garnet + biotite + orthopyroxene + plagioclase + quartz (\pm melt) in the mesosomes and garnet + biotite + orthopyroxene + cordierite + plagioclase + K-feldspar + quartz + melt in the melanosomes makes the Achankovil cordierite-orthopyroxene migmatitic gneisses a good example of anatectic rocks, where substantial melt fractions remained *in-situ* during decompression and cooling. Therefore, the rocks provide an opportunity to investigate deep crustal processes and record of rheological (thermal and mechanical) reequilibration prevailed during the final stages of orogeny.

The significance of cordierite formation and its possible relationship with melt formation are investigated applying theoretical calculations in the MnO–Na₂O–CaO–K₂O–FeO–MgO–Al₂O₃–SiO₂–H₂O (MnNCKFMASH) system. Results of numerical modelling of the mineral assemblages in pressure–temperature–composition (*P–T–X*) pseudosections using *Perple_X* infer that the sequence of reactions involving formation of cordierite-orthopyroxene-melt assemblage is consistent with an isothermal decompression (with a pressure drop of >1.5 kbars) at high temperatures (>800 °C), forming leucosomes. Biotite dehydration melting reactions, occurring above 4.5 kbars constrain prograde arm of the *P–T* trajectory and is interpreted as a product of crustal thickening, which was followed by rapid decompression. The final stage of exhumation is characterized by rehydration of cordierites in the melanosome by melt-solid interactions at exceptionally low-pressure (~3.2 kbars) conditions. The high-temperature isothermal decompression inferred from the mineral reactions and *P–T–X* pseudosections constitute a clockwise *P–T* path for the exhumation of the lower crust. This clockwise *P–T* path is consistent with the common tectonic model accepted for the genesis of granulite-facies migmatites during crustal thickening and later unroofing, accompanied with arc-continent collision. Our conclusions indicate low-*P* metamorphism and anatexis can be traced to convergent setting, where melt buoyancy considerably decreases density of the lithosphere and modifies rheology leading to rapid exhumation of the lower crust. Therefore, the crustal evolution in the Kerala Khondalite Belt is correlated with two stage processes: (i) thickening of the crust in relation to a continental-arc setting, followed by (ii) exhumation along a high-temperature stable geotherm with sufficient pressure release associated with syn- to post-convergence transpression and transtension.

Keywords: Cordierite-orthopyroxene migmatites; MnNCKFMASH phase relations; *P–T* pseudosection; low-pressure crustal anatexis; decompression exhumation; Kerala Khondalite belt, southern India.

INTRODUCTION

The moderate to high-temperature (*T*)/low-pressure (*P*) migmatite–granite terranes have drawn considerable attention of metamorphic petrologists, as such exposures usually preserve typical mineral assemblages of decompressional exhumation path, which can be attributed to final stages in the evolution of orogenic belts (Brown,

2001). Crustal anatexis and leucosome production are widespread phenomena in such high-grade metamorphic terranes, thus, always presenting a challenge to decipher the accurate *P–T* conditions of its evolution. In such cases, the link between observed mineral assemblages and related mineral reactions may not be available through conventional geothermobarometric techniques (see for e.g., Harley, 1989).

The remaining approach in better constraining the P – T evolution of migmatite–granite terranes comprises construction of equilibrium phase diagrams in P – T –composition (X) space for suitable bulk compositions (pseudosections) using internally consistent thermodynamic database. It is known that the quantitative phase relation modeling of any particular rock is influenced by its mineralogy and bulk rock compositions. Therefore, the chemical system applied for pseudosection modeling should represent the observed stable mineral phases in an appropriate bulk rock composition.

The KFMASH (K_2O - FeO - MgO - Al_2O_3 - SiO_2 - H_2O) model system is considered as a reasonable analogue for metapelitic rocks (e.g., Thompson, 1957; Pattison and Tracy, 1991; Spear, 1993) and is widely used with P – T – X pseudosections of pelitic/semipelitic bulk compositions. However, the system has a major disadvantage that it does not consider the effect of grossular in garnet and other Na and Ca bearing phases, which are common constituents of high-grade metapelites. While applying quantitative phase equilibria modeling to natural rocks, overlooking of the effect of certain important elements that influence mineral stability probably lead to misinterpretation of the pseudosections (Mahar et al. 1997). Therefore, more complex systems such as NCKFMASH (Na_2O - CaO - K_2O - FeO - MgO - Al_2O_3 - SiO_2 - H_2O) and MnNCKFMASH (MnO - Na_2O - CaO - K_2O - FeO - MgO - Al_2O_3 - SiO_2 - H_2O) are required for better quantitative simulation of pseudosections (see for e.g., Symmes and Ferry, 1992; Tinkham et al. 2001; White et al. 2001; Johnson et al. 2003).

In this paper, we have computed mineral–melt equilibria for the granulite-facies cordierite–orthopyroxene migmatitic-gneisses exposed along the Achankovil shear zone (AKSZ) of Kerala Khondalite Belt (KKB), southern India in MnNCKFMASH system, extending the KFMASH model metapelite system by adding MnO, Na_2O , and CaO as thermodynamic components. While recognising the existing decompression evolutionary model for the AKSZ, we apply improved set of phase equilibria calculations in refinement to demonstrate the reported thermobarometric conditions to a lower P – T region of the model petrogenetic grid, and present new evidence for partial melting of continental crust at low- P levels within granulite-facies regime. Further, we testify the robustness of MnNCKFMASH phase equilibria for constraining decompression exhumation and low- P crustal anatexis of high-grade granite-migmatite terranes.

GEOLOGICAL OUTLINE

The high-grade metamorphic rocks exposed in

southernmost part of the south Indian granulite terrain (SGT) are considered as one of the best exposures in the world to study lower crustal processes. Famously known as KKB, these rocks have long attracted interest due to its position within the east Gondwana coalition. Compositional and structural signatures of polymetamorphism, accompanied by intense migmatization attaining the grade of granulite-facies are established in many lithological units of the KKB (Chacko et al. 1987; Cenki et al. 2002). Based on lithological architecture and Nd model ages, the KKB has been divided into northeastern Achankovil unit (AU), southern Nagerkovil unit (NU) and central Ponmudi unit (PU), (Braun and Kriegsman, 2003 and references therein). Migmatitic garnet-biotite gneisses and pelitic (garnet + biotite + sillimanite \pm cordierite) granulites predominate and same kind of polyphase ductile deformation are common to both the PU and AU (Sinha-Roy et al. 1984; Srikantappa et al., 1985; Chacko et al. 1992). In addition, migmatized garnet-cordierite-orthopyroxene gneiss occurs in AU (Sinha-Roy et al. 1984; Cenki et al. 2002). The southernmost NU is a distinct lithounit comprising of massive charnockites, enderbites, and mafic granulites (Srikantappa et al. 1985). General NW–SE trend and open to isoclinal folding of leucocratic and melanocratic layers, with axial plane dip systematically increasing from south to north and ending in upright folds within the AKSZ are documented from KKB (Sinha-Roy et al. 1984; Braun and Kriegsman, 2003). The attitude of regional structures primarily pointing to NE–SW direction for the principal stress axis, most possibly built up by a thrust along the Achankovil shear zone. There are new evidences for arc-related magma genesis within the KKB, supporting crustal scale thrusting along the Achankovil zone by arc-continent collision (Ravindra Kumar and Sreejith, 2010; Sreejith and Ravindra Kumar, 2012). Occurrences of regional scale cordierite granulites, especially in collisional orogens as exposed in the AU provide excellent opportunity in understanding the dynamic processes of continental subduction and active crustal exhumation (Clarke, 1995).

The AU extending along Achankovil shear zone is bounded by Tenmalai shear zone in the south and Cardamom massif to the north. It consists of garnet-biotite gneisses, cordierite gneisses, marbles, quartzites and pinkish granites in significant amounts. K-feldspar megacryst bearing orthogneiss (Braun, 1996) and pelite/semipelite (garnet + biotite + orthopyroxene + cordierite \pm sillimanite \pm spinel) assemblages bearing paragneisses (Sinha-Roy et al., 1984; Cenki et al., 2002) are the dominant lithounits of AU. Recently, Sreejith and Ravindra Kumar (2011) interpreted the K-feldspar megacryst granitoids as a product of

collision tectonics formed in a continent-arc setting during subduction cessation. The pelite/semipelite assemblages have provided most of the information on P - T -fluid evolutionary history of the KKB rocks (Chacko et al. 1987; Nandakumar and Harley, 2000; Cenki et al. 2002). Different stages of migmatisation and *in-situ* leucosome generation representing a complex metatexite to diatexite transition evolution following granulite-facies metamorphism is common to both lithological components. The lithounits were interpreted as metamorphosed under a fluid-absent/deficient condition at this stage (Braun et al. 1996). Available geochronological data, mainly based on U-Pb zircon and monazite, Sm-Nd mineral-whole rock and EPMA monazite dating suggest that the granulite-facies metamorphism imprinted on the KKB rocks is related to the Pan-African (610 – 550 Ma) tectonothermal event (Braun and Kriegsman, 2003 and references therein). Protracted melting of the continental crust was the major consequence of this high-temperature event (Braun et al. 1996), possibly affecting rheology of this part of the southern Indian lower crust. Pb-Pb method on fluorapatite and monazites separated from leucogranites and U-Pb monazite dating of granitic gneisses points to whole-rock isochron ages of 509 ± 25 and 523 ± 32 Ma for the melting event (Braun et al. 1998).

Previous petrological investigations on cordierite gneisses from different localities of KKB by Sinha-Roy et al. (1984), Santosh (1987), Nandakumar and Harley (2000), and Cenki et al. (2002) provided evidence of retrogressive mineral reaction textures leading to a decompression evolution for the lithounit. P - T paths, obtained mainly by conventional thermobarometry on the cordierite bearing assemblages yielded peak P - T conditions of 5.5–7.0 kbar and 700° – 800° °C with strong isothermal decompression and moderate to rapid uplift history (Chacko et al. 1987; Santosh, 1987). Later works noted twofold post-peak P - T evolution for the cordierite domain, characterized by an initial cooling stage with limited decompression followed by a strong decompression with further drop in temperature (Nandakumar and Harley, 2000). Cenki et al. (2002), with partial petrogenetic grid, documented melt involved reactions both on prograde and retrograde path of its evolution and obtained peak temperatures of 900° – 950° °C at pressures of 6–7 kbar. These data suggest a deep crustal heating-cooling trajectory in the evolution of the north-eastern part of the KKB, with a stage of very- to ultra-high metamorphism and impulsive exhumation.

Our knowledge on the metamorphic evolution of KKB and the dependent physical conditions are still inadequate considering omission of a melt phase (see for e.g., Kriegsman

and Hensen, 1998) in thermobarometric computation. The only exception is the work by Cenki et al. (2002), who have applied partial KFMASH petrogenetic grid. Most workers have long argued that modeling natural rocks with complex chemical system imparts some amount of uncertainty in thermodynamic data and mixing relationships, and considered the KFMASH as the system of choice for quantitative modeling of pelites (Spear, 1993). However, several studies (e.g., Symmes and Ferry, 1992; Tinkham et al. 2001) have shown the possible misconstruction of pseudosections by ignoring important non-KFMASH phases, especially on samples with high melt-proportions. Modal proportions of Ca and Na bearing minerals (Santosh, 1987; Cenki et al. 2002) and melt-phases are abundant in the cordierite-orthopyroxene migmatitic gneisses of KKB. Therefore, application of partial petrogenetic grids may not be appropriate to fully describe the geodynamic evolution of the KKB lower crustal segment. For this reason, we consider, to constrain the geodynamic evolution through prograde and retrograde paths of the Achankovil anatectic migmatites, MnNCKFMASH is the minimum system required for quantitative pseudosection modeling.

We present here study carried out on field relationships and petrographic characteristics of the cordierite gneiss in the Valamchuzhi quarry (Fig. 1: Latitudes $09^{\circ} 15' 11.1''$ N and Longitudes $76^{\circ} 48' 26.7''$ E) located along the north-western boundary of the KKB, with typical cordierite + orthopyroxene + melt assemblages. We utilise the data for thermodynamic modeling, constraining P - T trajectory and tectonic evolution of the terrain.

FIELD RELATIONS AND PETROGRAPHY

The Valamchuzhi quarry is an excellent example for anatectic migmatites observed all through the AU. Intermediate grey (mesosome) and dark (melanosome) layers dominated by melanocratic minerals alternating with white (leucosome) layers define compositional bandings, consequently foliation of the migmatite (Figs. 2a and b). Occurrences of foliation parallel granitic melts (1–5 cm thick), interlayered with 10–15 cm thick melanosomes suggest *in-situ* nature of leucosomes. Minerals like garnet + biotite + cordierite + orthopyroxene + plagioclase + K-feldspar + accessories, characterise different growth stages in the progressive/retrogressive metamorphism and boundaries between metatexites and diatexites. Thus, the Achankovil cordierite gneisses can be considered as a distinctive example of anatectic migmatites with preservation of *in-situ* melts formed in response to the thermal peak of metamorphism. On regional scale the

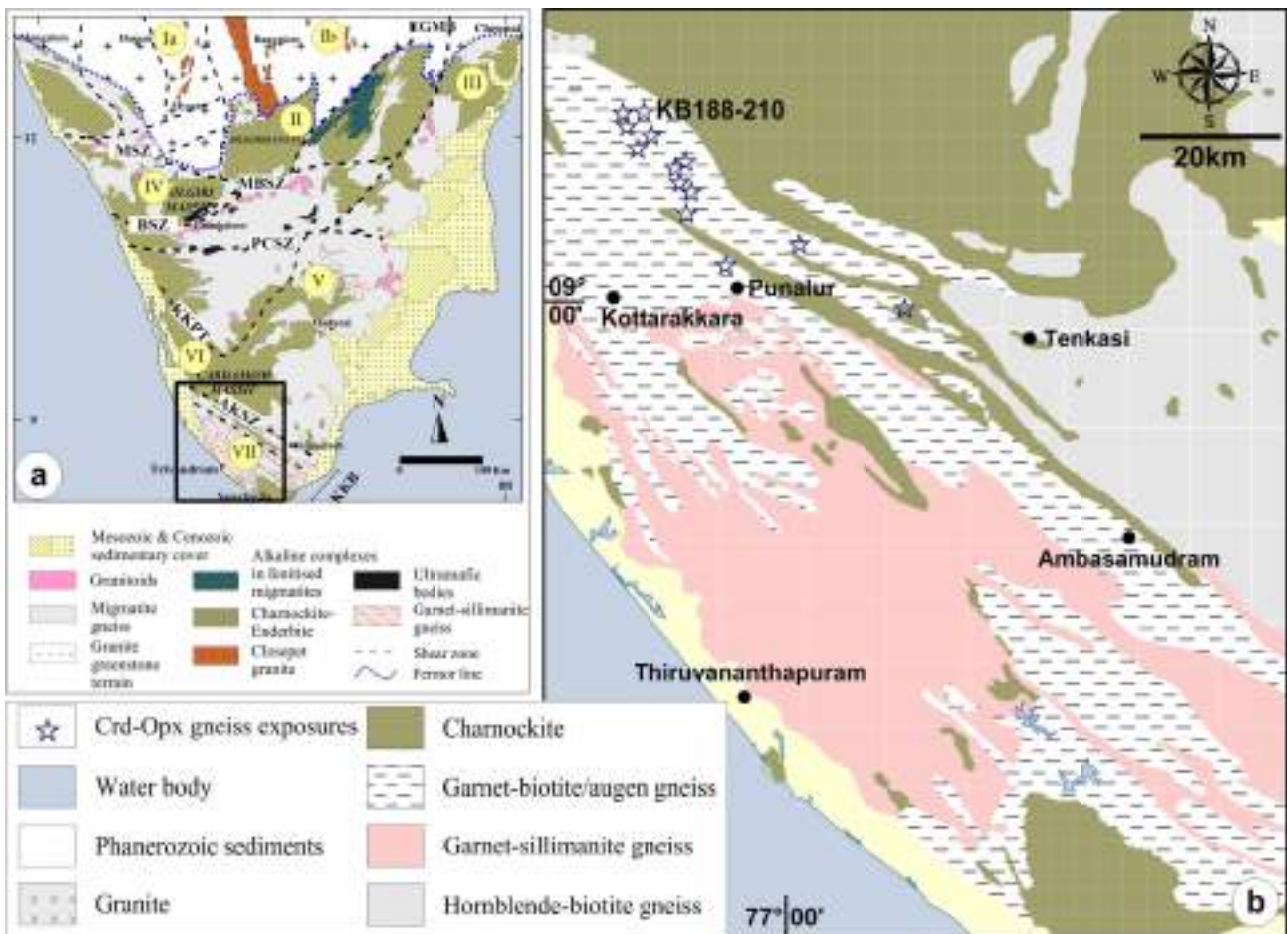


Fig. 1. (a) Map of south India (compiled from GSI, 1995) showing different crustal blocks: [Ia] Western Dharwar Craton; [Ib] Eastern Dharwar Craton; [II] Biligirirangan massif; [III] Madras Block; [IV] Nilgiri massif; [V] Madurai Block; [VI] Cardamom massif; and [VII] Kerala Khondalite belt (KKB). EGMB – Eastern Ghats Mobile Belt; MBSZ – Moyar-Bhavani shear zone; BSZ–Bhavani Shear Zone; PCSZ–Palghat-Cauvery shear zone; KKPT–Karur-Kambam-Painavu-Trichur shear zone; AKSZ–Achankovil shear zone. Box in the KKB region marks the study area. (b) Generalised geological map of the northern part of Kerala Khondalite Belt, India showing distribution of the cordierite–orthopyroxene migmatitic gneisses and location of Valamchuzhi exposure (KB188-210).

cordierite-orthopyroxene migmatitic gneisses appear as discontinuous units of varying sizes within the K-feldspar megacryst granitoids, with much evidence of partial melting, such as equally foliated leucosomes oriented parallel to the foliation of gneiss (Fig. 2a). The lateral extension of individual bodies varies from a few meters to few kilometers with thickness of several hundreds of meters.

Mesoscopically, the granulites display heterogeneous mineralogy, where separate domains of distinct mineral assemblages can be recognized in mesosome, melanosome and leucosome portions (Fig. 2b). Minerals (abbreviations after Whitney and Evans, 2010) present in different domains are as follows:

- Domain A (Mesosome): Grt–Bt–Opx–Pl–Qz (\pm melt)
 Domain B (Melanosome): Grt–Bt–Opx–Crd–Pl–Qz–melt (\pm Kfs)

Mineral assemblages in the melanosome portion appear to have formed following the dehydration reaction:



Subidiomorphic biotites are dominant and define foliation of the rock. Biotites can be classified into two types. First types are large, idiomorphic crystals. They usually occur as reacting phase merging with the matrix feldspars and orthopyroxene representing the following reaction:



These are restricted to matrix and distinctly different from fine-grained younger biotites (Fig. 3a).

Biotites are few or completely absent in the leucosome portions, suggesting possible role as reactants in dehydration reactions leading to the *in-situ* melting process. Light pink

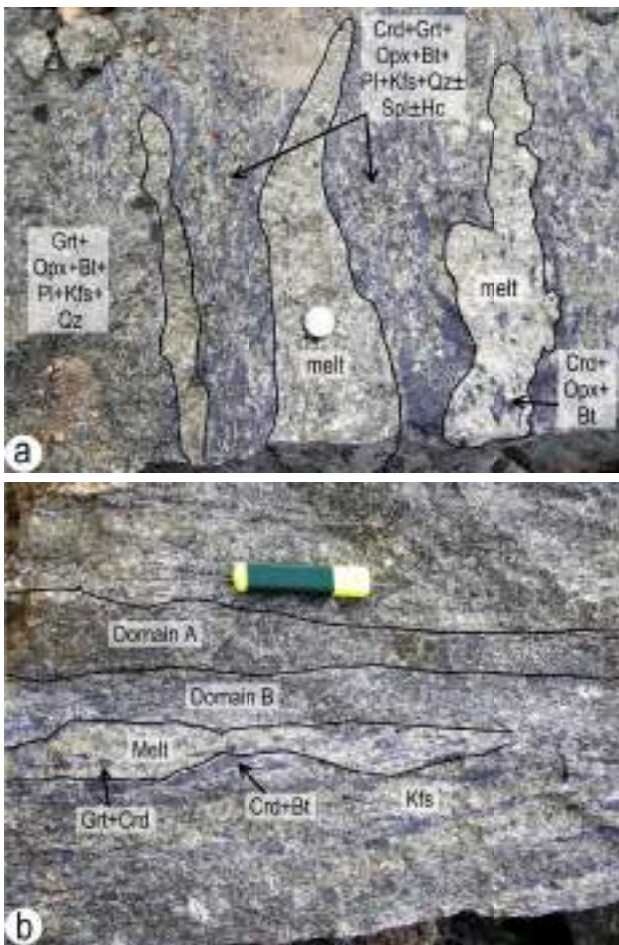


Fig.2. Outcrop photographs of cordierite-orthopyroxene migmatitic gneisses of KKB. (a) Close association of mesosome, melanosome, and *in-situ* melt pockets in the Valamchuzhi outcrop. (b) Foliation parallel leucosomes (melt) and domains of mesosome (domain A) and melanosome (domain B) with distinct mineral assemblages recognized in the Valamchuzhi exposure. Note the enrichment of biotite \pm cordierite assemblage along the leucosome-melanosome border showing partial rehydration of cordierites.

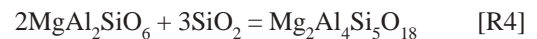
coloured garnets are ubiquitous and occur in varying grain size (4 to 7 mm). They usually appear as rounded subidiomorphic to hypidiomorphic grains with inclusions of biotite (Fig. 3b). Garnets with embayed grain boundaries and reaction margins replaced by orthopyroxene are common (Fig. 3b).

Cordierite invariably occurs as colourless subhedral untwinned crystals ranging in size from 2 to 8 mm across. Cordierites develop as granoblastic polygonal grains, and appear within melanosome and leucosome portions of the anatectic migmatite. They are generally free of inclusions but may contain zircon, biotite or opaque minerals as inclusions. Cordierite also occurs as moats around garnet

and in association with orthopyroxene. Cordierites are usually considered as a product of sillimanite breaking down with increasing temperature along Al_2SiO_5 -biotite tie-line in the P - T field:



However, the conspicuous absence of sillimanite in our sample rules out this possibility. Therefore, cordierite formation is interpreted as a reaction product between quartz and Mg-Tschermak's component released from orthopyroxene. The characteristic appearance of orthopyroxene in the domain B and its association with the cordierite are suggestive of the following model MAS ($\text{MgO-Al}_2\text{O}_3\text{-SiO}_2$) reaction:



At places cordierite is seen in direct association with pyroxenes, where the latter projects as tongues into cordierites (Fig. 3c). Modal abundance of cordierite decreases near the contact zones to anatectic melts. Increase in the amount of biotites at such zones indicates partial rehydration of cordierite by melt during a post-peak decompression reaction as follows:



Orthopyroxene are brown in colour. They develop as subidiomorphic grains and occur as perfect nematoblasts. Usually orthopyroxene show internal linear trails of other mineral inclusions and coincide with foliation of the matrix. First appearance of orthopyroxene in the domain A, comprising garnet-orthopyroxene-plagioclase-quartz-biotite with rare K-feldspar assemblages appears to have formed by reaction:



However, the presence of corroded garnet, biotite and quartz within orthopyroxene and cordierite suggest another possible reaction suggested by Hensen and Green (1972) between garnet and quartz to develop orthopyroxene and cordierite assemblages:



Plagioclase and K-feldspar occur as subhedral to anhedral plates (Fig. 3d). Elongate poikiloblastic plagioclase typically contain exsolved microcline (Fig. 3e). Nucleation of K-feldspar can be related to two distinct phases as perthite and microcline seen within the K-feldspar. Quartz appears as smaller sized subrounded grains with typical undulose and wavy extinction.

Accessory mineral phases in the cordierite-ortho-

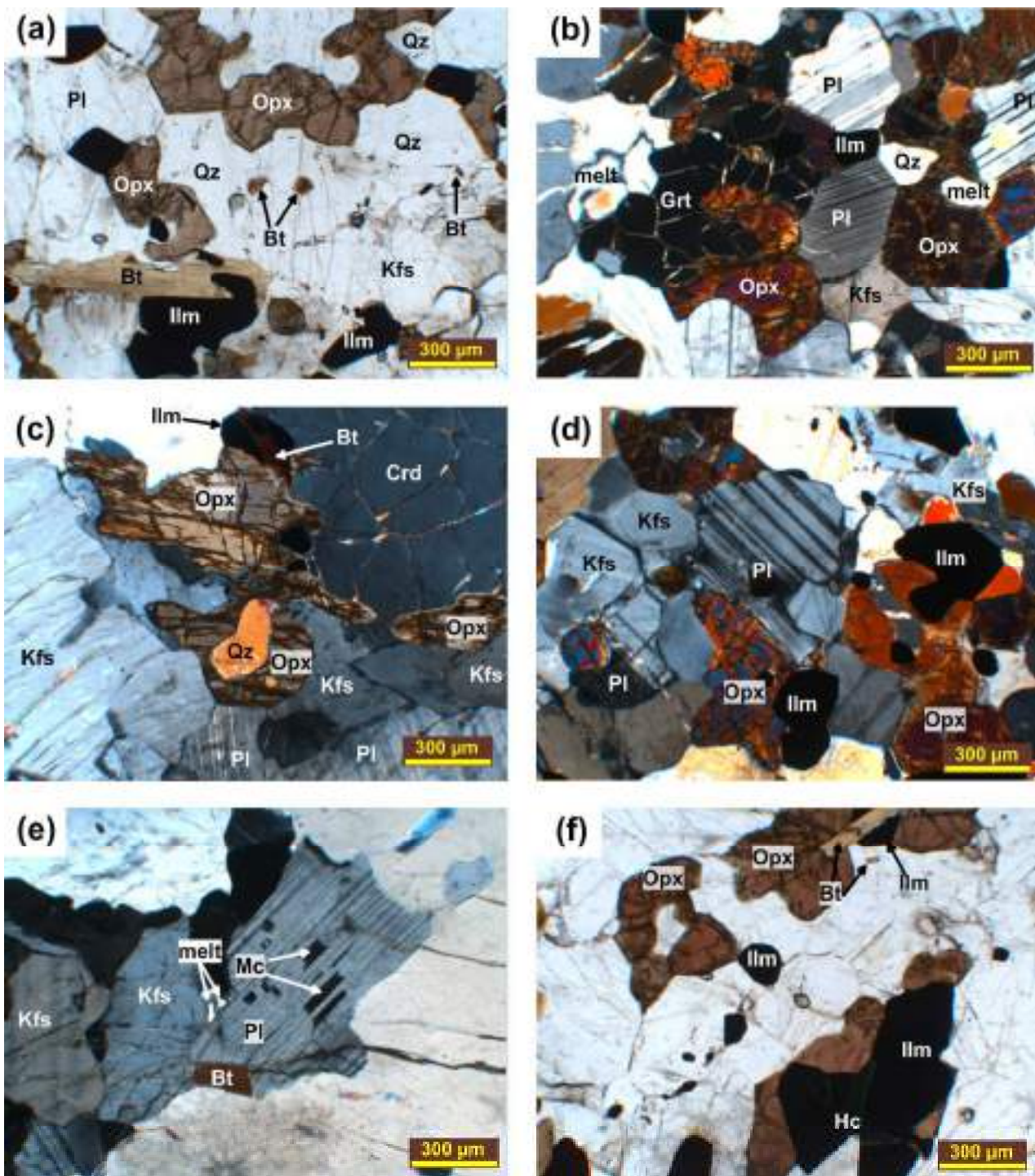
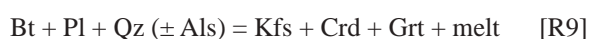
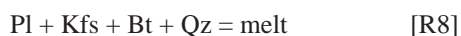


Fig. 3. Photomicrographs of representative mineral assemblages and textural relationships in the cordierite-orthopyroxene migmatitic gneiss of KKB. (a) Large, idiomorphic biotites in association with orthopyroxene and ilmenite. (b) Garnets with inclusions of biotite and embayed grain boundaries showing reaction margins replaced by orthopyroxene. Haplogranitic melt inclusions along biotite-garnet-quartz boundaries shows dehydration melting of biotite. (c) K-feldspar-biotite-orthopyroxene-cordierite assemblage. The co-existence of biotite and ilmenite shows ilmenite development from biotite incongruent melting. Note the tongues of pyroxene projecting to cordierite. (d) Plagioclase-K-feldspar-orthopyroxene-opaque assemblages. (e) Subhedral plates of plagioclase and K-feldspar. Note the melt inclusions along grain boundaries and exsolved microcline within plagioclase. (f) Orthopyroxene-biotite-ilmenite(-magnetite)-hercynitic spinel assemblage showing graphic-type intergrowths. Also note dispersed subround grains of ilmenite forming along the margins of biotite (top right corner).

pyroxene migmatitic gneisses are spinel, magnetite, ilmenite, rutile, zircon and apatite in minor amounts. Monazite, zircon and apatite mainly occur as inclusions in cordierite porphyroblasts of melanosomes and leucosomes. Small dispersed round grains of ilmenite usually developed along the margins of biotite (Figs. 3a and f) suggesting development from biotite during incongruent melting (Brown, 1983; Sawyer, 1999). Sporadic spinel-ilmenite (\pm rare magnetite) assemblage is noticed in association with cordierite and/or garnet. Deep-green hercynitic spinel, restricted to quartz-absent domains, and large grains of magnetite together with orthopyroxene show the development of graphic-type intergrowths (Fig. 3f).

The melt portions are characterized by quartz-plagioclase-K-feldspar micro- to meso-domains corresponding to leucosome. Field examinations, even with considerable uncertainty indicate that the anatectic migmatite outcrops typically contain 10–20% leucosome material. Leucosomes are generally tabular to sub-tabular in geometry with grain size varying from fine-grained to pegmatitic and aligned parallel to the gneissic foliation. The textures preserved in the melanosome together with the foliation parallel nature of the leucosomes can be linked to partial melting processes as described in Ashworth and McLellan (1985) and Sawyer (1999). Best explanations for the formation of haplogranitic assemblage by means of partial melting in the leucosome involve biotite dehydration reactions as given below:



Relict microtextures (Figs. 3b and e), like crystallized melt along grain boundaries as thin films of plagioclase, quartz, and K-feldspar and reaction textures formed by solid-melt interaction give evidence for partial melting processes in this sample.

BULK COMPOSITION AND P - T - X PSEUDOSECTIONS

The influence of melt phases in cation exchange thermobarometry on high-grade assemblages is always problematic (Holland et al. 1996). The relationship between observed mineral assemblages and progressive mineral reactions are best inferred on P - T - X pseudosections (e.g., Hensen, 1971), computed over a specific range of thermodynamical variables with limited numbers of phases. Pseudosections help us to perform simultaneous calculation of all possible reactions (multi-equilibrium calculations) within a relatively simple, well-defined chemical system for a specific bulk rock composition (e.g., Powell and Holland,

1988; Connolly, 1990; Connolly and Petrini, 2002; de Capitani and Petrakakis, 2010). We followed this approach by mineral equilibria modelling on a representative cordierite-orthopyroxene migmatitic gneiss sample (KB188-210) from the KKB. P - T - X pseudosection was constructed in the system MnNCKFMASH, extending the pelite model system KFMASH (Tinkham et al. 2001), as it also took into account the stability of garnet by the amount of Mn at lower pressures (e.g., Symmes and Ferry, 1992; Le Bayon et al. 2006). This ensured complete inclusion of essential rock-forming minerals in metapelites.

Bulk-rock compositions used in the P - T - X calculations were determined by X-ray fluorescence (XRF) analyses carried out on Bruker S4 Pioneer, wavelength dispersive XRF spectrometer at the Centre for Earth Science Studies (CESS), Trivandrum, India. The samples are heterogeneous on mesoscopic scale, with prominent bandings formed by alternating melanosomes and leucosomes. Therefore, the sample selection for geochemistry warranted maximum care. To check the compositional variability and to overcome its undesirable effects, we have collected \sim 5-8 kg of thoroughly homogenised cordierite-orthopyroxene migmatitic samples from seven locations and thoroughly homogenised before analysing with XRF. The leucosomes are evidently assumed as *in-situ* and the sample included a representative amount of leucosome material. The major elements geochemistry of all the seven samples are identical for most of the elements with slight variations in the value of SiO_2 (ranges between 56 wt% and 62 wt%). Therefore, we consider it is appropriate to restrict our study to one representative sample instead of making averages of all the analyses, thus allowing us to avoid any inadvertent miscalculations. The bulk rock compositions of the sample (KB188-210) in major oxide weight percent are: SiO_2 [56.12]; Al_2O_3 [15.97]; FeO [7.78]; MnO [0.15]; MgO [3.53]; CaO [3.23]; Na_2O [2.78]; K_2O [2.95]. FeO was calculated by multiplying total Fe_2O_3 obtained from XRF analysis with a conversion factor (0.8998; Rollinson, 1993), thus ignoring Fe^{3+} bearing phases, if any. This calculation seems to be stoichiometrically correct, since the major phases observed in the present sample incorporates only insignificant amount of Fe^{3+} .

Based on the field relations and observed mineral textures, pseudosection was computed for a P - T range of 2–5 kbar and 600°–900°C, applying Gibb's free energy minimization computations of Perple_X (ver. 6.6.6.) program (Connolly, 1990, 2009; Connolly and Petrini, 2002; <http://www.perplex.ethz.ch/>). The solid-solution models file (solution_model.dat) with the updated, internally consistent thermodynamic dataset (hp11ver.dat) from Holland and

Powell (2011) were used for defining phases and corresponding phase components. Mixing models for end-members were chosen according to White et al. (2001, 2007) and the following solution models with corresponding phases (in square brackets) were selected for pseudosection computations: Gt(HP) [garnet], TiBio(HP) [biotite], hCrd [cordierite], Opx(HP) [orthopyroxene], feldspar [plagioclase and K-feldspar], and melt(HP) [silicate melt phases]. The selection of solution model like TiBio(HP) may have some influence on the calculated metamorphic phase relations in the pseudosections, since the effect of titanium is not considered in the model system. However, the effect is likely to be small, as the TiO_2 content in the whole-rock chemistry is comparatively low (with an average of 0.97 wt%; $n=7$) and most of the TiO_2 content tends to be incorporated in rutile and ilmenite. This argument seems to be valid, as development of ilmenite observed along the margins of biotite (Figs. 3a and f) suggest Ti removal from biotite (Veblen and Ferry, 1983; Shau et al. 1991). Similarly, melt(HP) might have introduced trivial uncertainty in the calculations, because unlike natural melts, theoretical considerations do not account for Fe and Mg components in the melt phase. It is well known that generation of granitic melt by dehydration melting leaves behind residual granulites enriched in Mg and Fe components (White et al. 2001, 2002; White and Powell, 2002; Kelsey et al. 2003). The melanosome of the cordierite-orthopyroxene migmatitic gneisses are enriched in cordierite-orthopyroxene-biotite-garnet mineral assemblages, while the leucosome portions are devoid of Fe-Mg minerals. This possibly suggest depleted nature of the leucosomes with respect to Fe and Mg elements, thereby reducing the possibilities of major uncertainties in the pseudosection calculations. Based on textures and preserved peak mineral assemblages in the cordierite-orthopyroxene migmatites, we assume that the rock was relatively dry during and after the high-temperature granulite facies metamorphism. However, presence of melt-restite back reactions observed along melanosome-leucosome borders suggests rehydration and presence of water in the melt-phase (Kriegsman and Hensen, 1998). The projection scheme will become imperfect and thermodynamically invalid if water is considered as undersaturated in the melt phase. For volatile components, fluid equation of the state from the database of Holland and Powell (2011) were selected, assuming H_2O as the saturated component. Thus, all the parageneses involve water in excess throughout the temperature range being considered, allowing us to exclude H_2O wt.% from the bulk rock compositions.

The P - T pseudosection for the given composition with the specified range of thermodynamic conditions is

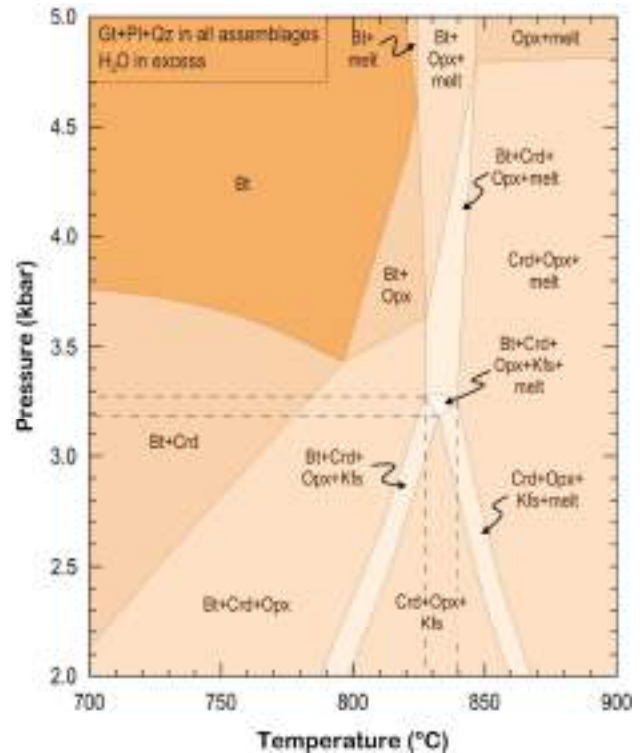


Fig.4. P - T pseudosection calculated for bulk rock composition in Na_2O - CaO - K_2O - FeO - MgO - Al_2O_3 - SiO_2 - H_2O (MnNCKFMASH) system (with H_2O in excess) for cordierite-orthopyroxene anatectic gneiss of the KKB. Bulk rock composition (in wt.%) used for calculation is presented in the text. Fields with progressively darker shades represent increasing variance of freedom. All fields include garnet, plagioclase and quartz in addition to the indicated mineralogy. The dashed lines projected from both the axes represent the P - T field of typical mineral assemblage found in melanosome (see Fig. 2b) portion of the rocks.

presented in Fig.4, in which higher degrees of freedom are indicated with increasing darker colours. Throughout the P - T - X section, garnet + plagioclase + quartz are stable in all the fields. The distinctive stable mineral assemblages observed in the present sample are represented in field between a narrow P - T range of 3.2–3.3 kbars and 827°–839 °C (Fig. 4). For clarity, stability fields and ‘in’ and ‘out’ reaction curves of important minerals are shown separately in Fig.5. The shaded area in this figure represent various multi-variant assemblages encountered in the sample associated with cordierite, biotite, and orthopyroxene with or without a melt phase.

It is apparent from the Figs. 4 and 5 that the appearance and stability of cordierite is mostly controlled by reduction in pressure (less than 3.8 kbar) at intermediate-temperature (700°–800 °C) conditions (Fig. 5). Above 830 °C, the

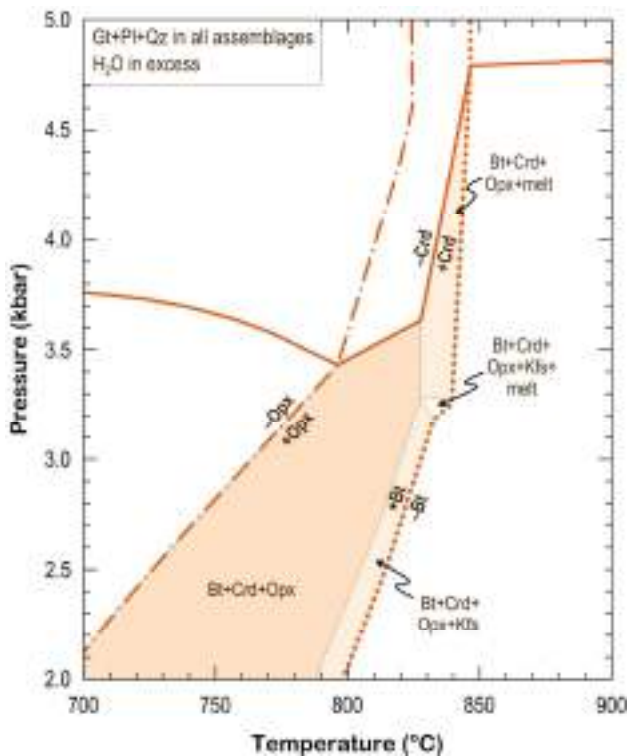


Fig. 5. P - T - X pseudosection showing phase stability fields and 'in' and 'out' reaction curves for biotite (dotted line), orthopyroxene (long dash and dot lines), and cordierite (thick continuous line). The shaded area in this figure represent various multi-variant assemblages encountered in the sample associated with cordierite, biotite, and orthopyroxene with or without a melt phase. See text for discussion.

stability curve of cordierite moves upward with increasing temperature and becomes steady state (~4.8 kbar) at about 845 °C. This can be attributed to two factors: (i) this point represent an invariant point for biotite out reactions and whole biotite is consumed by the dehydration melting reaction [R2] and (ii) the enhanced stability of cordierite at higher temperatures indicate cordierite production by the continuous reaction [R4] between orthopyroxene and quartz. At lower pressures (<2 kbars), the stability of biotite is controlled by the dehydration reaction [R1], which starts at less than 700 °C marked by the appearance of orthopyroxene and proceeding through univariant curve marking the generation of K-feldspar and culminating into the field of Grt-Crd-Opx-Pl-Kfs-Qz assemblages at ~800 °C. But in moderate pressure conditions (~5 kbars) the stability of biotite is extended up to 850 °C. Similarly, in low pressure conditions, K-feldspar appears in the diagram at temperature 785 °C, but in moderate pressures K-feldspar appears first after crossing the assemblage Bt + Grt + Pl + Qz at 825 °C by the reaction [R2]. Stability of garnet in all the fields is

not expected, especially at low pressures. However, the occurrences of cordierite and garnet at low pressures can be correlated with high Fe/Mg bulk composition ratio of the sample.

The solidus-supra-solidus separation in relation to cordierite and biotite stability is shown in Fig. 6. An interesting observation in the pseudosection is that above 3.4 kbars pressure and at higher temperatures (~800 °C) a small field (marked as [I] in Fig. 6) contains both biotite and orthopyroxene without any melt indicating a sliding

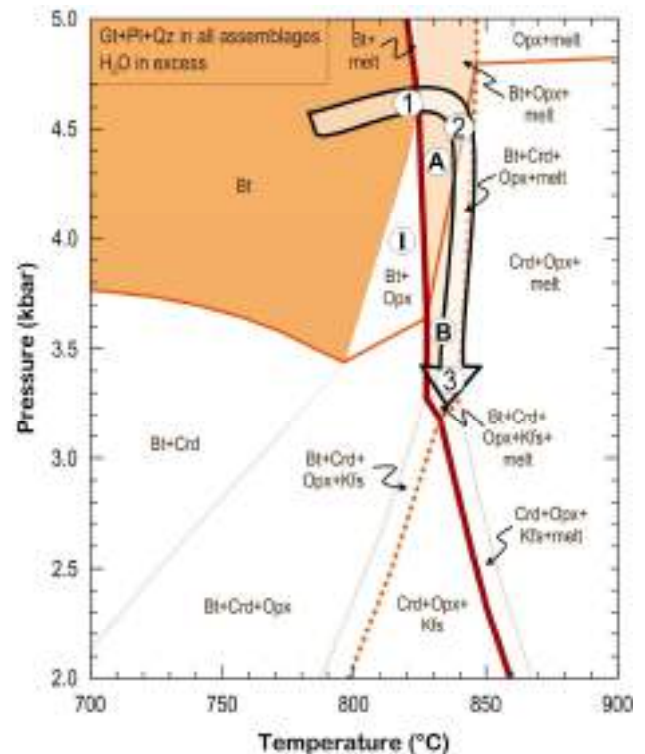


Fig. 6. P - T - X pseudosection showing derived phase relations of typical mineral assemblages and solidus-supra-solidus separation in relation to cordierite and biotite stability. Generation of melt is marked to the right side of the thick red line extending across the field from 850 °C at lower pressures to 820 °C at higher pressures. Reaction curves for biotite (dotted line) and cordierite (thick continuous line) is also shown for relating solid-melt interaction. The metamorphic P - T path (arrow) typically follows clockwise array, showing isothermal decompression for crustal evolution. Reaction marked as [1] corresponds to the beginning of metamorphic P - T path, by the decomposition of biotite to form orthopyroxene. Reactions [2] and [3] indicate corresponding metamorphic transformations causing the mineral assemblages in mesosome and melanosome portions (See text for discussion on reactions encountered along each univariant curves). Fields marked as [A] and [B] respectively represents P - T stability of mesosomes and melanosomes.

equilibrium between hydrous and anhydrous phases. After crossing this field at 825 °C, a melt phase starts appearing with various assemblages as mentioned earlier and the solidus line follows a near-isothermal path till it touches an invariant point at 3.2 kbars, wherefrom the melting reactions shift towards higher temperature gradients. However, the melt-free, biotite–orthopyroxene assemblage is not microscopically identified in the present sample, since most of the assemblages in domain A preserve haplogranitic melt (Figs. 3b and e). Thus, the first stage in the development of orthopyroxene from biotite break down might have happened at little bit higher pressures and the reactions [R2 and R6] might have proceeded through the reaction path marked as [1] in Fig.6. Therefore, the field marked as [A] in Fig.6 corresponds to the P – T – X field of domain A (Fig. 2b). The reaction further proceeds through a near-isothermal decompression path and enter into the field [B], coinciding with the reaction [R1]. During evolution, the path might have crossed or at least followed along the biotite-out univariant curve, since the textures bordering the domain A and leucosome (Fig. 2b) indicate partial rehydration of cordierite by the back reaction [R5] between melt and cordierite and formation of biotite. The final phase is marked by the formation of Kfs in the assemblage as shown by reaction [R9].

In short, the metamorphic phase relations based on the bulk rock composition predict the following sequence of mineral assemblage in the orthopyroxene–cordierite migmatitic gneisses of KKB. Palaeosome is apparently absent in the present case as primary biotite + garnet + plagioclase + quartz assemblage being progressively metamorphosed to biotite + garnet + orthopyroxene + plagioclase + quartz + melt (\pm K-feldspar) bearing assemblages at an elevated temperature reaching the granulite-facies. The peak P – T assemblage has survived in the mesosome portion in the domain A (Figs. 2b and 6), and was affected by a cordierite forming decompression stage, as indicated by the well-preserved biotite + garnet + cordierite + orthopyroxene + plagioclase + quartz + melt assemblages in the melanosome portions (domain B; Figs. 2b and 6). The final stage of metamorphic evolution is marked by the formation of typical biotite + garnet + cordierite + orthopyroxene + plagioclase + K-feldspar + quartz + melt assemblages (Fig. 6).

DISCUSSION

Field relations, such as abundant leucosomes supplemented with petrographic evidences suggest that the cordierite-orthopyroxene migmatitic gneisses of the KKB

have undergone partial melting under low- P conditions. Precise quantification of the P – T – t (time) evolution of rocks forming low- P assemblages with dehydration *in-situ* melting, as observed in the present sample is always challenging. We have attempted to understand the mineralogical transformations during prograde and retrograde metamorphism and its consequences on crustal melting by thermodynamic modeling using P – T pseudosections (Hensen, 1971). In general, the P – T trajectories of dehydration melting reactions follow a positive slope in petrogenetic grids verifying the present observation, which may be interpreted in two different ways: (i) an increase in thermal gradient, most possibly by burial into greater depths, promoting partial melting of the crustal lithologies (Jones and Brown, 1990; Brown, 2001) or (ii) unroofing of the granulite-facies migmatite lithologies causing a decrease in pressure, thus leading to decompression exhumation (e.g., Jones and Brown, 1990).

The KKB cordierite-orthopyroxene migmatitic gneisses pseudosections with thermodynamically predicted P – T stability fields are in agreement with sequences of mineral assemblages documented from thin section observations. The clockwise metamorphic P – T path for cordierite-orthopyroxene migmatitic gneisses of the KKB (Fig. 6), where the P – T evolution crosses a melt producing reaction above 800°C following a near-isothermal decompression path, may suggest existence of a high geothermal gradient related to crustal thickening and/or lithosphere thinning (e.g., Lux et al. 1986; Platt and England, 1994) followed by rapid erosional exhumation or crustal scale detachment faulting (England and Richardson, 1977; Zen, 1995). Numerically studies (e.g., Huerta et al. 1998) indicate that sequential thickening/thinning and rapid exhumation of the lithosphere will account for low-pressure metamorphism, but cannot produce low-pressure anatexis on its own. Remaining possible mechanisms for preheating and partial melting of the crust prior to exhumation suggest crustal thickening by continental subduction and/or thinning by removal of the lithospheric mantle (McKenzie and Bickle, 1988). The lithospheric delamination and mantle melting by an upwelling asthenosphere convects large amount of heat ultimately leading to partial melting of the fertile lower crust (Bodorkos et al. 2002). The rheological state of the subducted crust with partial melting is characterised by reduction in effective viscosity (Gerya and Stöckhert, 2006) thus, promoting rapid exhumation. Therefore, the decompressional exhumation of high-grade rocks from deeper portion of the crust to shallower levels could be easily related to thermo-mechanical behaviour of the

continental crust (e.g., Hollister, 1993; Faccenda et al. 2008, 2009), which is truly controlled by the occurrence of partially molten rocks.

Our study, based on field, textural, and P - T - X relations of cordierite-orthopyroxene migmatitic gneisses of KKB has confirmed equilibration of the typical mineral assemblages at 3.2–3.3 kbars and 827–839 °C, attaining anatectic conditions at typically low- P conditions. The beginning of metamorphic P - T path (Fig.6) of KKB cordierite-orthopyroxene migmatitic gneiss is characterised by the decomposition of biotite forming anhydrous orthopyroxene bearing assemblages, within the stability fields of biotite. Stevens and Clemens (1993) and Brown (1994) have shown biotite dehydration melting as common features in migmatites, which they attribute to heating in relation to crustal thickening. The clockwise P - T - t path presented in this paper also implies crustal thickening-related heating as the cause for dehydration melting. Experiments have proved that the biotite dehydration reaction can generate ~30% melts in rocks (Thompson, 1982), contributing to the formation of migmatitic gneisses ranging from metatexites to diatexites as observed in the cordierite-orthopyroxene migmatitic gneisses of KKB.

Only very few investigations in the past (Gerbi et al. 2006; Tirel et al. 2008 and references therein) have considered the role of anatexis in the evolution of low- P metamorphic core complexes. It is accepted that the low- P metamorphic belts generally represent transient conditions in Earth's crust, most possibly produced by accretion of heat-producing material that readily develop in active tectonic settings (Huerta et al. 1999). A continental collision setting is widely attributed for moderate- to low-pressure granulite-facies terrain with clockwise P - T paths (England and Richardson, 1977). The sequential growth of orthopyroxene-melt and orthopyroxene-cordierite-melt assemblages in the KKB cordierite-orthopyroxene migmatitic gneisses and their microstructural relationships, foliation parallel leucosomes, and P - T - X pseudosection modeling provide evidence for increased heat flow to the crust followed by exhumation, at a stable geothermal gradient. Thus, the most plausible tectonic setting from the several proposed general mechanisms for generating low- P metamorphism and anatexis suggests possible crustal thickening related to a collisional event for the formation of orthopyroxene bearing granulites and rapid erosional exhumation or uplift by unroofing, causing the decompression assemblages (England and Richardson, 1977; Thompson and England, 1984; Brown, 2001). The rapid exhumation allows deeper crustal material to reach the upper crustal regions, carrying heat with it. The final

stage of evolution is typified by late cooling of the rapidly uplifted crust to the stable geotherm.

The P - T trajectory is characterized by P/T gradients with a rapid pressure drop of 1.3 kbars for 10 °C (Fig. 6). This is typical of terranes undergoing rapid exhumation leading to high-temperature decompression and partial melting before cooling along a high geothermal gradient. The close association of leucosome, melanosome, and part of mesosome observed in the field (Figs. 2a and b) give evidence for *in-situ* crystallization of the melt. Supporting this argument, the retrograde rehydration of cordierite and cordierite-melt back reactions [R5] observed along the zones of segregation of anatectic melts indicate most melts remained *in-situ* and, in fact, suggests reason for the detected co-existence of leucosomes and typical low- P mineral assemblages in the rocks. The melt-solid reactions will be hindered if the melt migrates out of the system. However, the melt begins to migrate only when volume of the melt increases beyond 40-50%. Since, the observed melt volume constitute merely about 10-20% on outcrop scale, we assume that there was no melt migration evidently representing faster exhumation accompanying a pressure relaxation stage. The preservation of melt, *in-situ*, might have initiated retrograde rehydration reactions as a consequence of positive exchange between melt and solid (Kriegsman and Hensen, 1998). Therefore, the biotite-rich borders separating melt and melanosomes are considered as possible products of fluid influx during cooling of the migmatitic rocks.

The reactions [R1 and R5] show (Figs. 4 and 6) a gentle slope in the P - T diagram, extending from intermediate- (4.6 kbars) to low-pressures (3.2 kbars) at a stable temperature of 833 °C. The melting process across a stable geothermal gradient, thus can be compared to decompression evolution of orogenic belts. The significant post-peak decompression without major change in temperature suggests rapid unroofing of an over thickened crust, consistent with ~8-10 kms of crustal uplift. Thus, the crustal evolution of KKB cordierite-orthopyroxene migmatitic gneiss is ascribed to two-stage model. The models indicate crustal thickening and granulite genesis due to a collisional event, possibly by magmatic-arc accretion (Sreejith and Ravindra Kumar, 2012) as the first stage, followed by post-collisional collapse of over thickened crust. Near isothermal decompression and uplift, still under granulite-facies conditions in the arcs, account for a combination of erosion and persisting syn- to post-convergence extension (transpression, then transtension) processes for the lower crustal evolution. The post-orogenic extension is expected to transport enormous amount of alkaline magma into the lower crustal levels (Black and Liégeois, 1993; Bonin et al.

1998). Reports of a wide range of primitive alkaline magma compositions (Rajesh and Santosh, 1996; Sreejith and Ravindra Kumar, 2009) emplaced contemporaneous with the peak- to post-peak metamorphic evolution of KKB support this observation. Thus, the available data suggests metamorphism and crustal melting in the KKB along a convergent orogen similar to many well-known granulite terrains (e.g., England and Thompson, 1984).

The decompression path documented by us along a stable geothermal gradient demands a buoyancy-driven ascent of crustal rocks. Increase in melt fraction through dehydration partial melting is known to cause drastic decrease in density of the lithosphere (Richet and Bottinga, 1995), which would enable extension-induced decompression of migmatite complexes (Whitney et al. 2004). Hence, we argue that during the continental-arc accretion in KKB, the subducted continental crust achieved buoyancy with respect to the surrounding lithosphere attributable to the generation of voluminous low viscosity granitic melt, causing its detachment from the down-going slab and rapid exhumation (see for e.g., Rubatto and Hermann, 2001).

The crustal evolution processes deduced from cordierite-orthopyroxene migmatitic gneisses, which apparently transpired in comparable areas (Brown and Raith, 1996; Mohan and Jayananda, 1999; Sajeev et al. 2004; Tsunogae and Santosh, 2010), indicate extensive thickening of vast volumes of continental crust generating the southern Indian granulites with widespread melting and migmatites. This was followed by very rapid exhumation, most possibly by unroofing with possible melt-solid back reactions. Such features imprinted on larger segments of continental crust indicate more restricted conditions are required during orogeny for low- P anatexis than low- P metamorphism.

CONCLUDING REMARKS

Cordierite-orthopyroxene migmatitic gneisses, together with leucogranites are major crustal components in the northern part of KKB. Mineral assemblage and reaction textures define low- P /high- T metamorphic origins for these rocks. Peak metamorphic conditions of the migmatitic gneisses reach 4.6 kbars pressures above 800 °C, which was followed by exhumation with a pressure drop of about 1.5 kbar keeping a near isothermal gradient. The petrological

data along with inferred P - T path demonstrates dehydration-melting reactions through a decrease in pressure without significant change in temperature, causing partial melting accompanied by unroofing of the high-grade rocks and exhumation from mid-crustal levels. The final assemblages, formed *via* decompression exhumation and melt-solid back reactions show garnet + biotite + cordierite + orthopyroxene + plagioclase + K-feldspar + quartz + melt equilibrated at relatively low- P (3.2 kbars) conditions, while maintaining a higher thermal gradient (~834 °C) within the granulite-facies conditions. This finding suggests involvement of cordierite on lowering the pressures in haplogranitic systems along the solidus temperature curves, and records exceptionally low- P reaches of crustal anatexis during isothermal decompression exhumation, than previously estimated (Grant, 1985). We infer, water and K-feldspar released during cordierite forming reactions as a direct cause to increase the source rock fertility and advocated congruent melting at low-pressures.

The tectonics of the P - T path deduced for the semipelitic granulites of KKB infer two stage crustal growth mechanisms for the evolution of lower crust in this region. The first stage represented by granulite genesis reaching up to partial melting was happened in association with crustal thickening. Melt advection in the lower crustal regime has directed contrasting change in lithospheric rheology marked by drastic decrease in density of lower crust, eventually leading to detachment and rapid exhumation of the crust.

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Date: 23-11-2018

Consolidated Certificate for Internal Responsibilities of Teachers

Name : Dr. C. Sreejith
Designation : Assistant Professor
Department : PG Studies & Research in Geology
Assessment Period : 21-02-2011 to 10-04-2015
Time Period of Activities : 2013 - 2014

SI No.	Claims of the Teacher	Record of Reference	Remarks
1.	Teaching workload	Workload as per University Proforma II	
2.	Examination invigilation/ conduct of practical examinations – Duties assigned by home university and other universities	Exam duty register; Duty certificates	
3.	Question paper setting, valuation of answer scripts and invigilation duty of internal examinations	Question paper and internal assessment registers	
4.	Attendance in CV Camps of University Examinations	Duty certificates	
5.	Field Work / Mapping Camp	Office Proceeding for the conduct of study tour/ Mapping Camp	
6.	Member of the organizing committee, College Arts festival & Sports Day, duties related to Students Union, and other departmental activities	College Reports; Minutes of College Council/ Department Council	
7.	Coordinator of CSS and Member of Tutorial and QIP committees	Minutes of College Council	

Certified that the information given-above are verified with records of reference cited in each item and found correct.

Dr. V.K. Brijesh
IQAC Coordinator

Capt. M.N. Mohamed Koya
Principal

UNIVERSITY OF CALICUT

Abstract

Board of Studies – Reconstitution of various Boards of Studies – Approved – orders issued.

GENERAL AND ACADEMIC BRANCH-I

No:GA /F2/302/2012

Dated, Calicut University. P.O., 27.04.2013

Read :- 1. Item No.2013.310 of the minutes of the meeting of the Syndicate held on 30.03.2013.

2. Subsection (13) of Section 10 in Chapter III of Calicut University Act 1975.

3. Orders of the Vice-Chancellor on file of even number dated 27.04.2013.

ORDER

The Syndicate at its meeting held on 30.03.2013 vide item No. 2013.310 considered the question of reconstituting 113 Boards of Studies and resolved to constitute a 3 member Committee viz. Prof.K.A Siraj, Dr.Zainul Abid Kotta and Dr.K.V.Lazar (Syndicate Members) to submit the list of members of Board of Studies to the Vice-Chancellor for finalisation. Accordingly the committee has submitted the panel of 99 Boards of Studies.

The Vice-Chancellor has approved the panel of 99 Boards of Studies and the following recommendations of the Committee.

Recommendations:-

1. To constitute the Boards of Studies in Afzal-ul-Ulama UG and PG under the Faculty of Language and Literature.
2. To rename the Board of Studies in BBA programme as Management Studies UG and to induct two more members to the Board.
3. To include two more members to the Board of Studies in Computer Science and Application UG.
4. To combine (i) Philosophy UG and PG (ii) Dentistry UG and PG (iii) Nursing UG and PG as Single Boards.
5. The remaining 13 Boards will be reconstituted as and when the panel is furnished.

The Vice-Chancellor under Statute 26 in Chapter III of the Calicut University First Statutes 1976, nominated Chairmen/Chairpersons for each Board. The list of members of each Board is appended herewith. The Chairman of the UG Board of Studies will be ex-officio member of the PG Board of Studies in the same subject and vice-versa and the Chairmen of the Boards of Studies shall be ex-officio members of the Faculties concerned.

The members of the Boards of Studies shall hold office for a period of three years with effect from the date of this order.

Orders are therefore issued reconstituting the Boards of Studies as per the list appended.

Sd/-

REGISTRAR

To,

1. The Chairman and members of Board of Studies.
2. The Deans of Faculties concerned.

Copy to,

PS to Vice-Chancellor /PA to PVC/P A to Registrar/PA to F.O/
Controller of Examinations /Director SDE/Director CDC/DR GA I/DR GA II/
DR PLD/JR CDC/AR CDC/DR DOR/DR DSFC/ CDC 'E' Section/
GA IV B, E, J Sections/SF/DF/FC/System Administrator (for uploading the U.O
in the University Website)

Forwarded/By order



SECTION OFFICER

Appendix to order NO. GA/F2/302/2012 dated 27.04.2013

16. Geology (Single Board)

1. Dr.K.Sajan, Professor, Dept. of Marine Geology, CUSAT, Kochi (Chairman)
2. Dr.R.V.Rajan, Associate Professor, Dept. of Geology, Christ College, Irinjalakuda, Thrissur
3. Sri. C.Sreejith, Assistant Professor, Dept. of Geology MES Ponnani College, Ponnani.
4. Dr. P.S Harikumar, Scientist-E, CWRDM, Kunnamangalam PO, Kozhikode
5. Dr.Benno Joseph, Associate Professor, Dept. of Geology, Govt. College, Nattakam, Kottayam
6. Dr.Gangadhar, Associate Professor, Dept. of Geology, University College, Thiruvananthaouram
7. Dr.V.A.Aysha, Associate Professor, Dept. of Geology, MES Ponnani College, Ponnani.
8. Dr.V.Santhosh, Assistant Professor, Dept. of Geology, MES Ponnani College, Ponnani.
9. Dr.M.Muhammed Aslam, Associate Professor, Central University of Karnataka, Gulbarga, Ph:9847039122


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No.Acad C3/8732/2013

Dated, K.U Campus P.O, 10-07-2013

From

The Registrar

To

1. The Chairmen & Members of the Boards of Studies
2. The Secretary to Governor
3. The Principal Secretary to Higher Education Dept,
Govt.of Kerala,Thiruvananthapuram
4. Members of the Syndicate
5. Members of the Academic Council

Sir/Madam,

Sub : Reconstitution of the Boards of Studies - Copy of the Notification forwarding
of - Reg

- Ref: 1. Letter No.GS5-983/2013 dated 02-07-2013 from the Office of the Chancellor,
Kannur University.
2. Notification of even number dated 10.07.2013

I am to forward herewith a copy of the Notification regarding the reconstitution
of the 62 Boards of Studies and constitution of seven Boards of Studies of this
University by the Chancellor of Kannur University for your information.

Yours faithfully



REGISTRAR

Enclosure: As above

Copy to: SF/DF/FC


KANNUR UNIVERSITY
(Academic Branch)

No.Acad C3/8732/2013

Dated,K.U Campus P.O, 10 -07-2013

NOTIFICATION

It is hereby notified for the information of all concerned that the Chancellor of Kannur University has been pleased to reconstitute the Sixty two Boards of Studies and to constitute seven Boards of Studies of Kannur University by nomination under Statute 4 of Chapter XIII of the Kannur University First Statutes 1998, read along with Section 30 of the Kannur University Act,1996. The tenure of the reconstituted Boards of Studies will be Two years w.e.f 02-07-2013 (the date of entering upon office). The list showing the names of the Boards of Studies and the members nominated is made available in the official website of the University .(kannuruniversity.ac.in)



REGISTRAR

(By Order of the Vice-Chancellor)

To

The Chairmen & members (with covering letter)

Copy to:

1. The Secretary to Governor (with covering letter)
2. The Principal Secretary to Higher Education Dept,
Govt.of Kerala,Thiruvananthapuram (with covering letter)
3. Members of the Syndicate(with covering letter)
4. Members of the Academic Council (with covering letter)
5. PS to VC / PA to PVC / PA to Registrar / PA to CE/ PA to F.O
6. The Director, School of Distance Education
7. The Examination Branch
8. Finance Branch
9. Planning & Development Branch
10. SC/ST Cell
- 11.The PRO (for issuing press release)
- 12.The Computer Programmer (for uploading in the University website)
- 13.DR/AR -I Academic
- 14.Academic A,B,D,E& F Sections
- 15.FC&D Section
- 16.Information Desk
- 17.SF/DF/FC



21. GEOLOGY (COMBINED)

1. Dr. N M Abdulla
Director Geological Survey of India,
Pandesar, Manglore.
2. Dr. K. Rajan,
Dept. of Geology,
Govt. Engineering College, Calicut.
3. Dr. K Sandeep
Dept. of Geology
Govt. College, Kasaragod 671 123
4. Sri. Ajayakumar
Dept. of Geology,
Govt. College, Kasargod 671 123
5. Dr K Gangadhar
Dept. of Geology
University College, Thiruvananthapuram.
6. Dr. K Anto Francis,
Dept. of Geology,
Govt. College, Nattakam, Kottayam.
7. Sri. C Sreejith
Dept. of Geology,
MES College, Ponnani.
8. Dr. M A Mohammed Aslam,
Dept. of Geology,
Central University of Karnataka, Gulbarga 585106
9. Dr. P. Mohammed Rafeek
Dept of Geology
Govt Engineering College, Trichur.
10. Sri. V. Gopinathan
Principal
Model College, Madikkai, Nileshwar
11. K. Sreemathikkutty, (Chairman)
Dept. of Geology,
Govt. College, Kasaragod. 671 123



Petrogenesis of high-K metagranites in the Kerala Khondalite Belt, southern India: a possible magmatic-arc link between India, Sri Lanka, and Madagascar

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ABSTRACT

The Proterozoic Kerala Khondalite Belt (KKB), southern India preserves a distinct high-grade terrain that is interpreted to have been situated adjacent to Madagascar and Sri Lanka during Gondwana assembly. As such, it has become a major focus for testing models of supercontinent amalgamation and dispersal. The lithounits of KKB have remarkable petrological similarities to the Highland Complex (HC) of Sri Lanka and south-central Madagascar. However, there is no well-constrained petrogenetic model for the KKB that fits explicitly within a supercontinent reconstruction model. We present here results from our on-going studies on the origin and evolution of K-rich (potassic, where $K_2O/Na_2O > 1$) gneisses of KKB in relation to Proterozoic supercontinent events. Our results show, in a major departure from earlier metasedimentary origin, that potassic gneisses are metamorphosed granitoids. The metagranitoid samples display high K_2O contents and low $Al_2O_3/(FeO + MgO + TiO_2)$ values. They are moderate to strongly peraluminous (ASI values ranging from 1.05 to 1.47) rocks showing mineralogical, petrological, and geochemical characteristics distinctive of the high-K calc-alkaline suites. Typical of igneous suites, the high-K metagranites show minor variation in chemical compositions with most oxides showing negative correlation with SiO_2 . Geochemistry illustrates distinctive features of arc-related magmas with LILE (K, Rb, and Th) and LREE enriched patterns and considerable depletion of HSF (Nb, Zr, and Ti). The high-K metagranites are further characterized by strong negative anomalies of Eu ($Eu/Eu^* = 0.10-0.44$) and Sr, suggesting melting in plagioclase stability field and retention of plagioclase in the residual phase. Petrogenetic discrimination for granitoids, using major and trace elements demonstrates that the high-K metagranites of the KKB formed by partial melting of igneous source in lower- to middle-crust levels. Overall the geochemical features are supportive of origin in relation to a convergent margin setting, possibly in a continental magmatic arc system, which can be connected to the amalgamation and dispersal of continental fragments in a supercontinent event. This study, therefore, provides a lead towards more robust comparisons between the Proterozoic supercontinent events and processes.

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1. Introduction

Supercontinent cycles commonly involve orogenic processes that bind the former continental fragments together (Meert, 2003, and references therein). Thus, knowledge on the amalgamation and dispersal of landmasses is of fundamental importance in understanding continental dynamics as well as the Earth's evolutionary history. Similarly, information relating to the orogenic processes, which operated within individual continental fragments and their timings provide valuable information to constrain supercontinent cycles. Studies on deep continental crust, therefore, assume greater significance and are fundamental to the formulation of geodynamic models on the evolutionary history of the Earth and in understanding the juxtaposition of the continents in the geologic past.

However, this aspect has not received much attention, especially in the case of southern India, and when developing supercontinent evolutionary models, researchers have tried to visualize the assembly, disruption, and reassembly of supercontinent configuration using mostly palaeomagnetic and geochronological data (cf. Vijaya Rao and Reddy, 2002). As most of the palaeomagnetic and isotope signatures, with the exception of U–Pb systematics, found to be reset during subsequent events of deformation and high-grade metamorphism, the distinction between pre- and post-orogenic isotopic and magnetic overprints is difficult to decipher (see for, e.g., Dunlop, 1981; Hickman and Glassley, 1984; Mezger et al., 1992; Hensen and Zhou, 1995). Therefore, petrogenetic evolutionary models of continental lower crust are essential in configuring past supercontinents.

The popular models (Lawver and Scotese, 1987; Unrug, 1996; Lawver et al., 1998; Fitzsimons, 2000; Collins and Windley, 2002; Meert, 2003) regarding Proterozoic supercontinent assembly assume that India, Sri Lanka, Madagascar, Australia, and Antarctica

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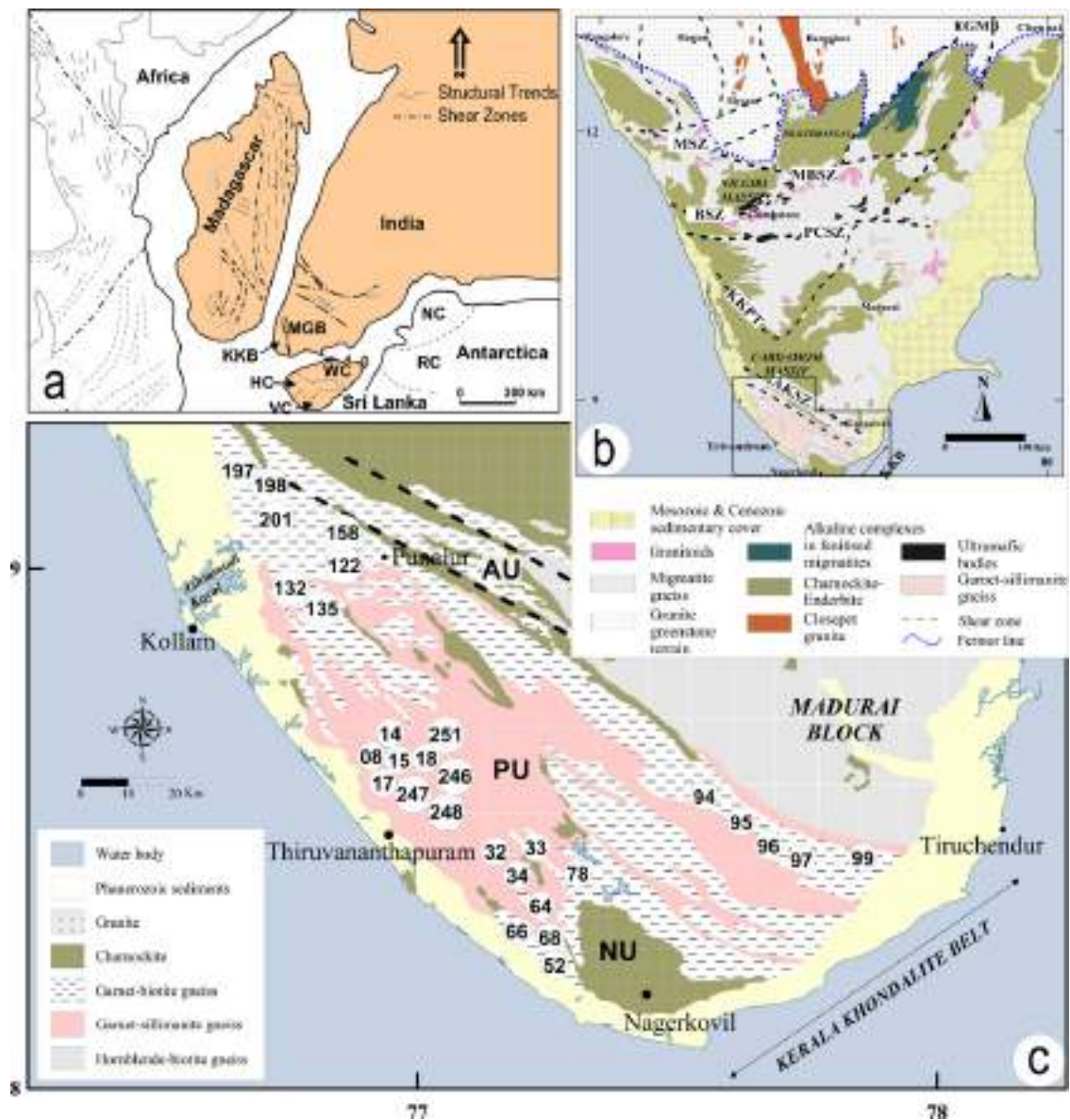


Fig. 1. (a) Simplified supercontinent configuration of the east Gondwana fragments around India (reconstruction adopted from Lawver and Scotese, 1987; and map modified after Windley et al., 1994; Cenki and Kriegsman, 2005). KKB: Kerala Khondalite Belt, MGB: Madurai Granulite Block (India); WC, HC, and VC represents Wannai, Highland, and Vijayan Complexes of Sri Lanka. NC and RC are Napier and Rayner Complexes of Antarctica. (b) Generalized geological framework of southern India (compiled from GSI, 1995). EGMB – Eastern Ghats Mobile Belt; MBSZ – Moyar-Bhavani shear zone; BSZ – Bhavani Shear Zone; PCSZ – Palghat-Cauvery shear zone; KKPT – Karur-Kambam-Painavu-Trichur shear zone; AKSZ – Achankovil shear zone. Box in the KKB region marks the study area. (c) Simplified geological map of the KKB showing locations (given in circles) of high-K metagranite samples studied. AU, PU, and NU refers to Achankovil, Ponmudi, and Nagerkovil Units, respectively (after Braun and Kriegsman, 2003; Cenki et al., 2004).

were together up to the dispersal of Gondwana (ca. 150 Ma ago; Fig. 1). The exact point of juxtaposition between India, Madagascar and Sri Lanka within east Gondwana and the similarity in petrogenetic evolution of the lower crust, they share, are as yet unclear. Further, the reconstruction of the Proterozoic supercontinent is complicated by several episodes of deformation and high-grade metamorphism that led to voluminous melting of the lower crust. Earlier geochemical studies in Kerala Khondalite Belt (KKB) were focused on close-pair gneiss–charnockite chemistry or the broad geochemical characteristics. These studies did not consider sample distribution and classification as a critical factor in petrogenetic interpretations. Published data, therefore, do not encompass adequate representation and all lithological variants of the entire belt. The present work is part of a major programme conceived to bridge these gaps by detailed field, petrological, and geochemical studies

and evaluation of petrogenetic processes operated in lower crustal segments of the KKB. Based on petrological and geochemical data, we propose a new model for the petrogenesis of high-K metagranites of the KKB. In addition, we compare and speculate on the origin and time–space relation of these granitoids with arc-related granitoids of Sri Lanka and Madagascar with the aim to establish a possible position with neighbouring terrains of Proterozoic segments in the Gondwana coalition.

2. The Kerala Khondalite Belt

2.1. Geological setting

The KKB (Fig. 1) is the southernmost part of the southern Indian granulite terrain (SGT), which underwent high-grade

metamorphism reaching high- to ultrahigh-temperatures (HT/UHT; Chacko et al., 1987, 1996; Satish-Kumar and Harley, 1998; Cenki et al., 2002) during Pan-African times (Bartlett et al., 1995; Braun and Kriegsman, 2003 and references therein; Braun and Bröcker, 2004). The polymetamorphic KKB represents part of an extensive Meso-Neoproterozoic mobile zone well known as the Pandyan mobile belt (Ramakrishnan, 1993) and made up of supracrustal lithologies (Srikantappa et al., 1985; Chacko et al., 1992; Braun and Kriegsman, 2003 and references therein). Major rock types are garnet and biotite bearing quartzo-feldspathic gneisses, sillimanite and graphite bearing metapelites (khondalites), and garnet–cordierite (\pm orthopyroxene) granulites, with subordinate amounts of calc-granulites, quartzites, mafic granulites and charnockites (Chacko et al., 1992; Braun and Kriegsman, 2003 and references therein).

Based on lithology, structure, and model ages, three distinct lithotectonic units are distinguished within the KKB (Cenki and Kriegsman, 2005): the central Ponmudi (PU), southern Nagerkivil (NU) and northern Achankovil (AU) Units. Massive charnockites, enderbites (orthopyroxene bearing tonalite), and mafic granulites constitute the dominant lithologies in the NU, whereas migmatitic garnet–biotite gneisses and pelitic granulites predominate in the PU. Garnet–biotite, garnet–biotite–sillimanite (–cordierite), and strongly migmatized cordierite–garnet–orthopyroxene gneisses are the major rock types in AU. Arrested charnockite (incipient or beginning stages of charnockite) formation in garnet–biotite gneisses and pelitic granulites is a common feature in the PU (Ravindra Kumar et al., 1985; Ravindra Kumar and Chacko, 1986; Raith and Srikantappa, 1993). The preserved metamorphic grade of the PU and AU is granulite facies, with peak temperatures of c. 900 °C and pressures of at least 5–6 kbar (Braun and Kriegsman, 2003, and references therein). Sinha-Roy (1979) recognized four deformational episodes, of which the most prominent is defined by isoclinal folding of leucocratic and melanocratic layers. Cenki and Kriegsman (2005) substantiated this observation and proposed a model for southernmost India comprising the whole area as a single tectonic domain. Similar deformations are also described from the Highland Complex (HC) of Sri Lanka (Berger and Jayasinghe, 1976; see also papers in Raith and Hoernes, 1994) and comparable E–W directional fabric development with isoclinal folding, representing two phases of deformation were also described from southern Madagascar (Martelat et al., 2000).

The quartzo-feldspathic gneisses of the KKB have been classified as sodic and potassic groups by Chacko et al. (1992) based on K_2O/Na_2O ratio (>1). The authors suggested sedimentary precursors for the KKB gneisses. Later, Braun et al. (1998) identified the widespread augen gneisses as deformed porphyritic granite bodies, documenting an important phase of crustal magmatism in the KKB. Petrological and geochemical data for the different lithological components of KKB are given elsewhere (e.g., Srikantappa et al., 1985; Chacko et al., 1987, 1992; Braun et al., 1996; Cenki et al., 2002, 2004). From our studies, we found that potassic gneisses, lacking an augen structure share similar petrological and geochemical characteristics with the augen gneisses, strongly supporting an igneous origin. However, petrogenesis of the potassic gneisses, particularly possible magmatic origin of the precursors has not been well understood. The available data point to a Pan-African age for the emplacement of augen gneiss precursors into the KKB basement (\sim 560 Ma or later; Braun, 2006). Very recently, Kröner et al. (2012) reported an older age of 1.55 Ga for the emplacement of porphyritic granites from northeastern part of the KKB. Buhl (1987; PhD Thesis, quoted in Braun and Kriegsman, 2003) and Bartlett et al. (1998) were able to document an earlier thermal event at \sim 1800 Ma reaching upper-amphibolite facies from all the three lithounits of KKB, including the potassic gneisses. This discrepancy in age relation allows speculating potassic gneisses and augen gneisses to have

formed in separate events. In the present study, we focus on the potassic gneisses of the KKB and demonstrate, for the first time, that they are magmatic in origin.

2.2. Field relations, petrography, and mineral chemistry

The potassic gneisses are interlayered with sodic types in metre to kilometre scale and occur dominantly towards the south and southwestern parts of the KKB. Augen gneiss with conspicuous augen texture dominates towards the northeastern margin of the KKB (Braun et al., 1998). Both the sodic and potassic types show foliated gneissic structures defined by bands of quartzo-feldspathic and mafic constituents. The major petrographic differences between the sodic and potassic gneisses as observed by Chacko et al. (1992) are: (i) the potassic group is enriched in relatively homogeneous K-rich micro- to mesoperthites, while the alkali feldspar of the sodic group is a Na-rich perthite and antiperthite; and (2) the sodic group is considerably poorer in ferromagnesian minerals. The authors considered the compositional differences of the two rock types as primary features of the protoliths, rather than being caused by later metasomatic modification. The extension of individual outcrops is limited and the nature of contact between each type is nowhere clearly exposed to permit mapping and field based classification of the rock units. In addition, the original intrusive contacts, if any preserved during their emplacement, were obscured by intense deformation. In outcrops, the potassic gneisses are light to dark grey on fresh surfaces, depending on the amount of biotite present. The original magmatic fabric has been first modified by pervasive deformation producing the gneissic foliation. This fabric was also obscured by later garnet-bearing leucosomes formed *via* biotite-dehydration melting reactions. The leucosomes mostly follow the gneissic foliation forming stromatic migmatites indicating *in situ* nature and limited melt segregation in these migmatites (Fig. 2a and b). In the field, the gneisses are medium- to coarse-grained with marked inequigranularity of the minerals, foliation, and preferred orientation of the feldspar and biotite grains. Two generations of garnet are observed. One is essentially distributed along the foliation indicating crystallization prior to the migmatization event. However, at places garnets are well developed into subhedral grains giving no evidence of deformation, forming the second generation. They are mostly enclosed in quartzo-feldspathic halos of the leucosomes, indicating quartz + Al-rich biotite + plagioclase melting under fluid-absent conditions to produce garnet, K-feldspar + melt phase, and opaque minerals, mostly ilmenite (Fig. 2a). Such leucosomes with spotted garnets are common throughout the potassic gneisses. These are cut across by later pegmatite dykes at several locations, and development of arrested charnockites can be seen associated with pegmatite veins (Fig. 2b).

The mineral assemblages of potassic gneisses are made up of quartz (21–34%), alkali feldspar (17–39%), plagioclase (15–34%), garnet (3–17%), biotite (2–12%), and minor amounts of zircon and ilmenite. The modal mineralogy is given in Table 1. Quartz occurs as subhedral to anhedral interstitial grain and typically shows undulatory extinction, and is common as drop-like inclusions in feldspars and garnet. Feldspars are ovoid and tabular in shape. Microcline is also seen in a number of sections as smaller and more irregular grains. In a larger number of sections, K-feldspar and plagioclase grains show a granophyric intergrowth with quartz. Tabular subhedral grains of biotite have greenish-brown to reddish-yellow colour with medium grain size and showing metamict mineral inclusions. Ilmenite are mostly associated with biotite and garnet. The modal proportions of felsic minerals plot within the granite field of the partial QAP ternary diagram (Fig. 3) of Le Maitre (2002).

The chemical composition of rock forming minerals phases was determined using the Cameca SX100 EPMA with 4 wavelength

Table 1
Modal mineral analysis (vol.%) of the KKB high-K metagranites.

S. No.	08–14	14–21	15–22	17–27	18–28	32–46	33–47	34–49	52–72	64–89	66–91	68–94	78–108	94–137	95–138
Qtz	29.4	32.0	30.3	31.9	31.2	29.3	30.7	32.4	29.4	28.9	25.1	28.0	23.5	22.1	26.4
Kfs	37.7	39.3	35.8	39.0	38.8	33.5	36.4	27.3	17.0	35.5	30.5	34.9	28.9	17.2	23.8
Pl	20.1	17.3	20.2	15.3	16.6	22.0	19.2	25.2	31.2	19.1	22.8	18.5	24.0	34.6	28.8
Grt	4.6	4.8	6.6	11.4	7.2	9.0	7.2	10.7	9.8	10.7	15.9	10.9	17.7	16.2	8.8
Bio	7.1	5.4	6.1	1.9	5.3	5.2	5.7	3.8	12.2	5.3	4.6	7.0	4.7	9.1	11.5
Acc	1.0	1.2	1.0	0.5	0.9	0.9	0.9	0.6	0.4	0.5	1.1	0.7	1.1	0.7	0.7

S. No.	96–139	97–142	99–147	122–165	132–175	135–178	158–187	197–215	198–216	201–219	246–261	247–263	248–264	251–268
Qtz	28.6	25.9	30.2	24.2	23.2	30.6	22.1	32.4	21.8	27.8	34.5	28.4	29.6	31.7
Kfs	27.8	26.3	37.5	23.0	28.4	37.0	38.4	19.6	26.4	29.7	24.9	39.1	38.8	17.6
Pl	24.3	24.2	18.8	28.9	25.5	15.4	24.5	25.9	27.7	27.2	21.7	22.2	19.8	29.4
Grt	7.9	14.9	8.9	12.3	16.2	11.4	4.0	12.9	15.8	8.2	8.1	3.5	4.0	11.2
Bio	10.5	8.0	3.9	11.1	5.6	4.8	10.1	8.3	7.9	6.5	10.1	6.3	6.7	9.4
Acc	0.8	0.7	0.7	0.5	1.0	0.7	0.9	0.9	0.5	0.6	0.8	0.5	1.2	0.7

Acc: accessories includes Zrn, Mnz, Ap, iron oxides, etc. Mineral abbreviations after Kretz (1983).

dispersive spectrometers at the CSIR-National Geophysical Research Institute, Hyderabad. Analysis was performed using a focused electron beam of 1 μm diameter, 20kV accelerating voltage, and a 20-nA beam current regulated on a Faraday cage. However, in the case of feldspars, a beam diameter of 5–8 μm was used for the analysis. Both synthetic and natural standards supplied by M/s. Micro Analytical Consultants, U.K. were used for the calibration of individual elements. The analysis of standards suggests <0.1% error on the major element analysis performed. Representative analyses of minerals are listed in Table 2. Plagioclase is characterized by X_{An} (Ca/[Ca+Na]) values ranging from 0.33 to 0.39. K-feldspars was analyzed along a “Z” line profile and have average compositions of Ab_{18.4}An_{1.0}Or_{80.5}. Garnets are homogeneous depicting solid solution between almandine and grossularite with low contents of pyrope and spessartine.

Relatively high grossular content is attributed to the role of plagioclase in garnet forming reactions. Biotites show compositional variation within the phlogopite–annite series with X_{Fe} [Fe²⁺/(Fe²⁺ + Mg)] = 0.49 and 0.68 and low ΣAl contents, indicating more evolved nature of granitoid magma.

3. Sample selection and analytical procedures

We have examined a good number of samples (~150) from a large number of outcrops (more than 100) of quartz-feldspathic granitoids in the KKB and carried out major element analysis to classify them. The spatial resolution of sampled outcrops is very high (<1 km interval in most cases) with close association between adjacent sample locations. We have restricted our detailed study to potassic gneiss samples (K₂O/Na₂O > 1) to evaluate their

Table 2
Composition of major minerals in representative samples of the KKB high-K metagranites.

Mineral	K-Feldspar	Plagioclase				Garnet				Biotite					
		33–47	33–47		68–94		33–47		68–94		33–47		68–94		
			Core	Rim	Core	Rim	Core	Rim	Core	Rim	Core	Rim	Core	Rim	
(n=)	10	3	2	4	5	3	2	3	3	5	6	8	7		
SiO ₂ wt%	64.12	59.86	59.75	58.25	58.07	36.50	36.33	36.76	37.21	35.13	35.36	36.67	36.77		
TiO ₂	0.02	0.02	0.03	0.03	0.01	0.08	0.05	0.05	0.06	4.90	4.92	4.99	5.03		
Al ₂ O ₃	18.35	24.48	24.58	25.19	25.34	20.70	20.79	21.01	21.09	12.63	12.75	13.37	13.42		
FeO	0.03	0.06	0.03	0.03	0.03	38.37	38.89	36.53	36.12	26.05	25.94	19.40	19.32		
MnO	0.01	0.02	–	–	0.02	0.53	0.58	0.68	0.71	0.05	0.02	0.03	0.03		
MgO	–	–	–	–	–	1.47	1.28	3.24	3.40	6.84	6.86	11.02	11.21		
CaO	0.21	6.73	6.82	7.77	7.93	3.08	3.06	2.37	2.20	0.01	0.00	0.02	0.01		
Na ₂ O	2.04	7.59	7.55	6.95	6.90	0.03	–	0.01	0.01	0.15	0.12	0.18	0.19		
K ₂ O	13.50	0.13	0.21	0.21	0.20	–	–	–	–	9.16	9.13	9.42	9.51		
Total	98.27	98.89	98.97	98.41	98.50	100.73	100.98	100.66	100.77	Total	94.93	95.10	95.09	95.51	
Cations based on eight oxygen					Cations on the basis of 12 oxygen				Cations based on 22 oxygen						
Si <i>apfu</i>	2.990	2.694	2.688	2.643	2.635	Si <i>apfu</i>	2.949	2.933	2.938	2.967	Si <i>apfu</i>	5.600	5.615	5.627	5.616
Al	1.007	1.297	1.302	1.346	1.354	Al ^{IV}	0.052	0.067	0.062	0.034	Al	2.371	2.385	2.416	2.413
Ti	0.001	0.001	0.001	0.001	–	Al ^{VI}	1.918	1.910	1.915	1.946	Ti	0.588	0.587	0.576	0.578
Fe ²⁺	0.002	0.002	0.001	0.001	0.001	Fe ²⁺	2.593	2.626	2.442	2.409	Fe ²⁺	3.474	3.445	2.490	2.469
Mn	0.001	0.001	0.000	0.000	0.001	Mg	0.177	0.154	0.386	0.404	Mg	1.626	1.624	2.520	2.552
Ca	0.010	0.325	0.329	0.378	0.386	Mn	0.036	0.040	0.046	0.048	Na	0.047	0.036	0.054	0.056
Na	0.184	0.662	0.659	0.612	0.607	Ca	0.267	0.265	0.203	0.188	K	1.863	1.850	1.843	1.854
K	0.803	0.007	0.012	0.012	0.012	Na	0.005	–	0.002	0.001	X _{Fe}	0.68	0.68	0.50	0.49
Mol.% of end-members					Mol.% of end-members										
Ab	18.43	66.60	65.90	61.08	60.46	Alm	41.83	85.14	79.29	79.01					
An	1.03	32.70	32.90	37.75	38.40	Grs	4.12	8.42	6.48	6.04					
Or	80.55	0.70	1.20	1.20	1.16	Prp	3.37	5.00	12.54	13.24					
					Sps										
					Uv										

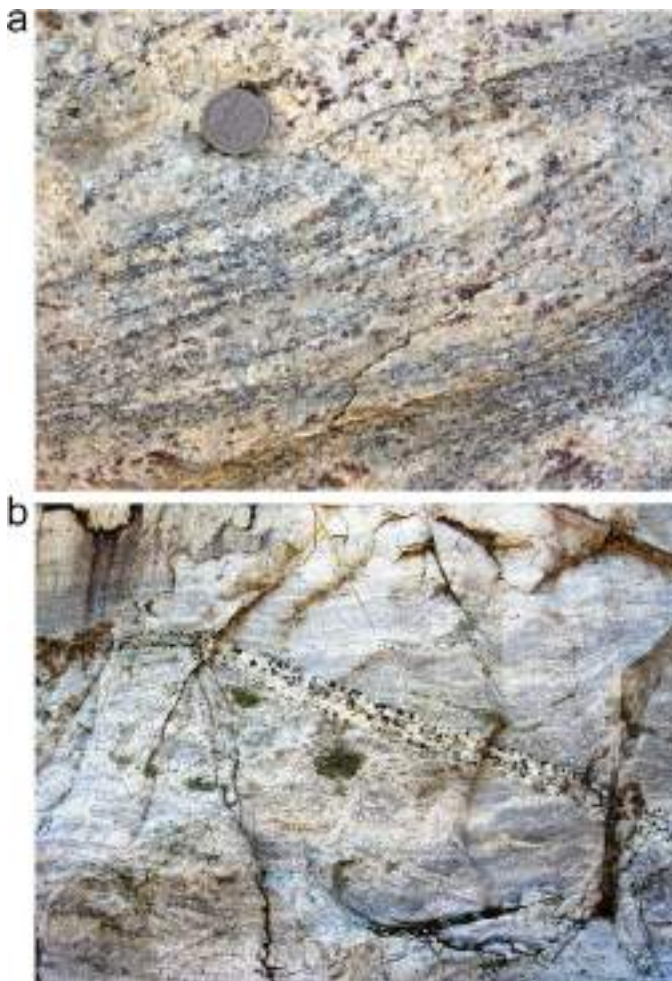


Fig. 2. Field relations in the high-K metagranites (a) Garnet-bearing quartzofeldspathic leucosomes. Note the absence of biotite in such leucosomes. (b) Patches of arrested charnockite overprinting gneissic fabric adjacent to pegmatite veins. Length of the photo is ~1.25 m.

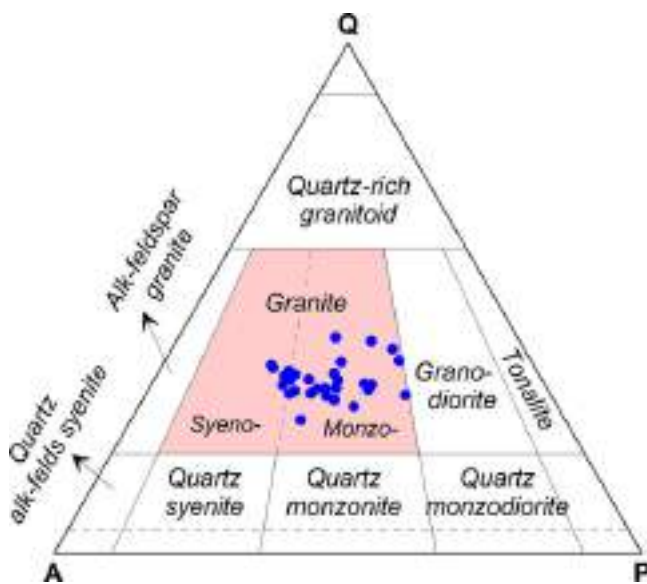


Fig. 3. Quartz-alkali feldspar-plagioclase (QAP) plot showing modal data for KKB high-K metagranites in Le Maitre (2002) classification diagram.

igneous origin. Since gneisses display considerable heterogeneity on mesoscopic scale, the sample selection for geochemistry demands greater level of care. Critical errors may arise due to considerable melt segregation and/or melt loss during the anatexis event. It is generally known that the migration and removal of melts in migmatites is driven by a combination of melt buoyancy and pore pressure gradients (e.g., Hibbard, 1987; Ribe, 1987; Brown et al., 1995), which is controlled by deformation and rock anisotropy (Sawyer, 2001). Even though, the leucosomes have developed as networks that significantly modified the original gneissic foliation fabric of the potassic gneisses of KKB, it is interesting to note that the leucosome layers have not been deformed (Fig. 2b). It is obvious that the HT/UHT event leading to anatexis post-dates the regional deformation. This ensures *in situ* preservation of the leucosome material and rules out the possibilities of major melt segregation or loss from KKB potassic gneisses, as lack of sufficient pressure hindered squeezing of the melt from an effectively solid mush (cf. Weinberg, 2006). Further, preservation of large euhedral to subhedral garnets, formed by dehydration melting reactions, embedded within the leucosome without any direct contact with biotite bearing melanosome indicate *in situ* preservation and limited segregation of the melt (e.g., Kriegsman, 2001). Therefore, we took care to collect samples large (~8–10 kg) enough to be representative of bulk migmatite composition. The entire sample is crushed, finely pulverized, and thoroughly homogenized before analysis. Twenty-nine representative samples of potassic gneisses were analyzed for major and trace elements on Bruker S4 Pioneer Wavelength Dispersive X-ray fluorescence (WD-XRF) spectrometer at the Centre for Earth Science Studies (CESS), Thiruvananthapuram. Fused glass disks and pressed powder pellets respectively, were used for major and trace element analysis. An in-house developed analytical programme using more than 15 International standards, representative of matrix and target element concentrations, was applied for calibration. Detailed analytical procedures and technique accuracy and precision are available in the CESS website (<http://cess.res.in/facilities/central-laboratories/xrf-lab>). Thirteen samples were analyzed for REE by ICP-MS at NGRI, Hyderabad. For full details of the procedure of ICP-MS method adopted during this study and accuracy and precision of the data, see Satyanarayanan et al. (2006).

4. Geochemistry

4.1. Major element characteristics

The potassic gneisses are characterized by moderate to high SiO_2 (64–73 wt.%) and moderate Al_2O_3 (13.5–16.5 wt.%) contents, with K_2O ranging from 3.33 to 6.33 wt.%, Na_2O varying from 1.44 to 3.37 wt.%, and CaO varying between 0.94 and 2.97 wt.% (Table 3). Major and trace element variations illustrated in Harker diagrams (Fig. 4a and b) display relatively coherent trends with decrease of TiO_2 , Al_2O_3 , Fe_2O_3 , MgO , CaO , and P_2O_5 with increasing SiO_2 (Fig. 4a). Concentrations of alkalis show small data spreads with negative correlation for Na_2O and positive correlation for K_2O against SiO_2 . The K_2O vs. SiO_2 plot further shows all samples to be of high-K calc-alkaline to shoshonitic affiliation (Fig. 5). On the ternary ($\text{Na}_2\text{O} + \text{K}_2\text{O}$)– FeO – MgO diagram (AFM; Irvine and Baragar, 1971) (Fig. 6), samples plot along the calc-alkaline–tholeiitic boundary.

4.2. Trace and rare earth element characteristics

The trace element variation diagrams (Fig. 4b) exhibit considerably more scatter than the major elements, particularly Ba and Zr. However, Sr and Eu show negative linear trends, whereas Rb and Y define positive correlations with SiO_2 content. The primitive

Table 3
Whole-rock major (wt%) and trace element (ppm) data for KKB high-K metagranites.

S. No.	08–14	14–21	15–22	17–27	18–28	32–46	33–47	34–49	52–72	64–89	66–91	68–94	78–108	94–137
SiO ₂	70.87	72.71	70.84	70.77	71.95	69.62	71.10	70.64	66.48	67.59	65.18	67.08	64.97	63.30
TiO ₂	0.46	0.38	0.47	0.53	0.47	0.68	0.49	0.47	1.04	0.73	1.03	0.80	0.60	0.90
Al ₂ O ₃	13.97	13.55	13.96	13.74	13.80	14.44	13.85	14.08	14.71	14.14	15.09	14.18	15.87	16.24
MnO	0.03	0.02	0.03	0.03	0.03	0.03	0.03	0.06	0.10	0.07	0.05	0.05	0.03	0.08
Fe ₂ O ₃	4.16	3.71	4.69	4.69	4.70	4.58	4.79	5.66	6.77	5.46	6.69	5.93	7.21	7.51
CaO	1.42	1.01	1.54	1.52	1.11	1.79	1.58	2.03	2.46	1.71	2.70	2.05	1.77	2.77
MgO	0.47	0.44	0.46	0.54	0.43	0.83	0.39	0.31	1.45	0.67	1.20	0.86	1.72	2.27
Na ₂ O	2.54	2.34	2.35	2.28	2.16	2.90	2.25	2.40	3.28	2.40	2.31	2.04	2.59	2.66
K ₂ O	5.91	5.91	5.53	5.55	5.82	5.19	5.58	4.09	3.63	5.35	4.68	5.54	4.29	3.33
P ₂ O ₅	0.15	0.08	0.14	0.18	0.15	0.14	0.19	0.16	0.29	0.28	0.37	0.36	0.07	0.18
Total	99.97	100.16	100.01	99.81	100.62	100.20	100.26	99.9	100.21	98.41	99.30	98.89	99.12	99.25
Co	7	5	7	6	5	7	4	T	14	2	12	9	15	14
V	51	37	53	57	41	77	40	31	50	T	57	T	78	91
Cr	301	259	269	323	329	259	214	364	154	113	142	134	197	222
Ni	10	11	9	12	8	12	6	6	14	5	7	9	27	25
Zn	42	22	41	46	40	61	45	17	74	51	73	65	83	104
Rb	461	399	452	386	464	405	361	206	201	330	267	286	187	269
Sr	92	80	94	100	87	108	90	128	172	102	140	96	232	151
Y	151	118	138	99	141	103	125	126	87	71	70	83	44	44
Zr	383	287	446	461	450	349	421	566	525	407	345	487	276	310
Nb	14	12	16	14	15	19	17	19	15	27	19	31	T	16
Ba	561	509	560	599	470	730	771	979	966	790	856	708	1100	718
Pb	64	58	49	38	50	31	28	21	30	32	34	47	37	15
Th	69	67	89	15	78	89	19	84	11	10	11	58	8	39
K/Rb	107	123	102	120	105	107	129	166	150	135	146	161	191	103
Rb/Sr	5.01	4.99	4.81	3.86	5.33	3.75	4.01	1.61	1.17	3.24	1.91	2.98	0.81	1.78
ASI	1.06	1.12	1.10	1.10	1.16	1.06	1.10	1.17	1.07	1.10	1.10	1.08	1.31	1.25
DI	83.76	86.08	81.78	81.65	83.98	80.46	81.98	77.19	71.70	77.59	70.21	75.45	69.60	63.42
S. No.	96–139	97–142	99–147	122–165	132–175	135–178	158–187	197–215	198–216	201–219	246–261	247–263	248–264	251–268
SiO ₂	67.41	65.21	70.33	64.78	64.41	69.13	67.54	67.43	63.85	68.62	69.40	70.73	70.57	67.99
TiO ₂	0.67	0.70	0.48	0.82	0.81	0.77	0.54	1.00	0.90	0.64	0.85	0.49	0.46	1.07
Al ₂ O ₃	14.57	15.04	14.23	15.78	15.93	13.80	15.90	14.05	16.50	15.28	13.57	14.55	13.89	14.42
MnO	0.08	0.09	0.09	0.08	0.08	0.07	0.02	0.09	0.09	0.05	0.05	0.01	0.01	0.09
Fe ₂ O ₃	5.44	6.74	4.11	6.20	6.67	5.65	4.01	6.93	6.79	4.70	6.16	3.35	3.70	6.73
CaO	2.24	2.41	1.71	2.43	2.14	1.68	1.61	2.43	2.06	2.14	2.39	0.94	1.11	2.29
MgO	1.50	1.98	0.83	2.44	1.72	0.67	1.32	1.11	2.13	0.94	0.82	0.62	0.54	1.12
Na ₂ O	1.74	2.27	2.23	2.09	2.09	1.66	3.27	1.91	1.91	2.45	1.44	2.49	2.42	3.14
K ₂ O	4.79	4.37	5.50	4.06	4.19	5.55	6.33	3.46	4.01	4.63	4.67	5.73	5.86	3.42
P ₂ O ₅	0.26	0.17	0.13	0.12	0.17	0.27	0.23	0.21	0.12	0.24	0.16	0.28	0.19	0.22
Total	98.70	98.97	99.65	98.80	98.21	99.25	100.77	98.62	98.36	99.69	99.51	99.19	98.75	100.49
Co	9	12	11	14	21	10	7	7	18	8	14	1	4	15
V	44	60	32	81	66	T	33	53	73	36	51	T	T	49
Cr	147	190	145	196	170	98	115	134	176	114	123	86	85	126
Ni	15	16	14	21	33	7	19	8	31	13	7	7	9	6
Zn	58	82	39	86	71	58	41	66	79	45	63	61	42	73
Rb	258	179	224	216	200	334	325	181	204	224	318	567	453	176
Sr	200	101	110	186	174	106	200	129	209	239	101	100	89	164
Y	80	26	55	40	59	130	43	55	58	49	152	70	62	70
Zr	374	185	206	303	365	793	259	362	393	339	713	368	370	526
Nb	T	17	12	10	7	18	T	12	9	8	14	18	10	17
Ba	929	631	826	799	834	729	841	678	916	1200	874	354	482	728
Pb	37	29	31	37	34	51	48	29	36	43	30	54	54	34
Th	8	22	37	5	8	17	6	11	9	7	19	13	14	9
K/Rb	155	203	205	157	175	138	162	159	164	172	122	84	108	162
Rb/Sr	1.29	1.77	2.04	1.16	1.15	3.15	1.63	1.40	0.98	0.94	3.15	5.67	5.09	1.07
ASI	1.20	1.17	1.12	1.29	1.34	1.17	1.05	1.24	1.47	1.18	1.15	1.21	1.13	1.11
DI	72.03	68.06	80.34	66.13	67.51	77.52	81.98	68.88	65.50	76.33	73.00	84.94	84.08	73.13

T stands for values in trace amounts (<1 ppm).

mantle normalized multi-element diagram shows enrichment in large ion lithophile (LIL) elements (e.g., Cs, Rb, Th, and K) in relation to the high field strength (HFS) elements and sharp negative anomalies of Nb, Sr, P, Zr, and Ti (Fig. 7).

Bulk rock rare earth element (REE) abundances of samples are listed in Table 4 and the corresponding chondrite-normalized data are plotted in Fig. 8. The total rare earth elements (REE)

contents vary between 285 ppm and 1062 ppm. A distinctive feature for the rock samples is the strong negative Eu anomaly ($Eu/Eu^* = 0.10–0.44$). The REE patterns indicate high fractionation between light and heavy REE, with $(La/Yb)_N$ ratios of 9–35, caused by enrichment in the light REE (LREE). However, the LREE display small variations in fractionation ($[La/Sm]_N = 3.72–5.87$) patterns. Similarly, heavy REE (HREE; $[Gd/Lu]_N = 1.37–4.51$) fractionation

Table 4
Rare earth element analyses of representative high-K metagranites from KKB.

S. No.	08–14	14–21	15–22	17–27	18–28	32–46	33–47	34–49	68–94	94–137	95–138	97–142	99–147
La	161.94	160.78	235.56	61.66	179.97	142.70	109.36	202.97	158.01	93.05	83.64	63.47	71.11
Ce	331.25	338.09	489.26	126.97	389.06	329.18	220.79	399.25	320.82	191.51	173.04	128.66	138.69
Pr	35.55	35.86	53.33	13.74	42.55	37.80	23.91	41.01	35.12	20.66	19.07	13.66	14.45
Nd	130.53	132.21	197.38	53.07	158.96	147.58	94.62	148.77	137.42	80.49	74.22	53.24	54.20
Sm	20.92	21.90	31.76	8.69	25.48	23.93	17.70	21.59	24.01	13.75	12.80	10.28	10.15
Eu	0.88	0.78	0.91	1.09	0.71	0.91	1.01	1.36	1.25	1.43	1.41	1.29	1.22
Gd	16.39	16.59	24.10	6.68	18.86	15.51	14.65	18.40	18.42	10.57	9.51	8.18	9.13
Tb	2.31	2.25	3.04	0.95	2.47	1.96	2.44	2.90	2.66	1.48	1.28	1.25	1.59
Dy	14.20	12.92	15.43	5.87	13.29	10.35	15.13	19.69	13.38	7.28	6.19	6.05	9.78
Ho	1.66	1.36	1.57	0.68	1.37	1.09	1.61	2.33	1.57	0.86	0.74	0.67	1.24
Er	5.81	4.66	4.90	2.38	4.38	3.56	4.87	7.89	5.20	2.81	2.42	1.95	4.15
Tm	0.73	0.61	0.50	0.31	0.49	0.37	0.54	1.01	0.63	0.33	0.29	0.21	0.53
Yb	7.16	6.38	4.57	3.21	4.45	3.13	4.71	9.95	6.35	3.31	2.91	2.02	5.28
Lu	1.07	1.06	0.67	0.51	0.65	0.45	0.68	1.54	1.03	0.55	0.47	0.33	0.84
ΣREE	730.4	735.4	1063.0	285.8	842.7	718.5	512.0	878.6	725.9	428.1	388.0	291.3	322.4
Nb/La	0.09	0.07	0.07	0.23	0.08	0.13	0.16	0.09	0.20	0.17	0.12	0.27	0.17
La/Th	2.35	2.39	2.65	3.98	2.31	1.60	5.71	2.40	2.73	2.36	2.02	2.95	1.91
(La/Sm) _N	4.83	4.58	4.63	4.43	4.41	3.72	3.86	5.87	4.11	4.23	4.08	3.86	4.37
(Gd/Lu) _N	1.92	1.97	4.51	1.66	3.66	4.34	2.69	1.50	2.25	2.41	2.55	3.10	1.37
(La/Yb) _N	15.37	17.12	35.03	13.03	27.48	31.02	15.78	13.86	16.92	19.09	19.51	21.40	9.15
Eu/Eu*	0.15	0.13	0.10	0.44	0.10	0.14	0.19	0.21	0.18	0.36	0.39	0.43	0.39

patterns are rather low and uniform. The samples are characterized by low Nb/La (0.07–0.27) and La/Th (1.60–5.71) ratios (Table 4).

5. Discussion

5.1. Petrogenetic considerations

Discussion on the petrogenesis of high-potassium gneisses/orthogneisses will not be comprehensive without a careful examination on the effects of high-grade metamorphism and anatexis on the geochemistry, especially the depletion of LILE. Addressing this, we note a coherent behaviour of K, Rb, and Th on the primitive mantle-normalized plots (Fig. 7) suggesting immobility of these elements during metamorphism. K/Rb (102–205) and La/Th (1.60–5.76) ratios being within the normal range for igneous rocks support further undepleted nature of Rb and Th (Rudnick et al., 1985). These features are in good agreement with our assumption that melt loss from these rocks is negligible.

The roughly linear variations of major and trace elements on Harker diagrams (Fig. 4a and b) suggest an igneous origin of the potassic gneisses by partial melting of the source region. The observed negative Nb anomalies and relatively low Sr contents are characteristics of crustal derived magmas (Deniel et al., 1987). The negative Eu anomalies indicate extraction of plagioclase during melt generation, which would also result in a depletion of Sr and Ba. Negative Eu anomalies and a decrease of Sr and Eu contents with increasing silica demonstrate that plagioclase was an important residual phase (Vidal et al., 1982) in the lower crustal source of the melts.

The Eu content is also important in deciphering petrogenetic processes of granitic rocks (see Gromet and Silver, 1987). In the studied potassic gneisses/K-granites, with increasing differentiation index (DI) the Eu content decreases (Fig. 9a) and the ratio Sm/Eu increases (Fig. 9b). This pattern is characteristic of feldspar fractionation between melt and restite (Cameron and Cameron, 1986; Martin, 1994). The important role of feldspar fractionation in the petrogenesis of these rocks is further indicated by negative anomalies of Eu, Ba, and Sr. Rb, Th, and U, like the trivalent REE, do not enter into the early cumulating residual phases and hence an increase of these elements in late magmatic fractions is expected. The high contents of K, Rb and Th, and low contents of Sr, Zr and Ti noted in the high-K metagranites (Fig. 7) thus support evolution of the magma by fractional crystallization. Sr, like Eu²⁺, substitutes for

Ca in the feldspar lattice and therefore, melt fractions are expected to have low Sr content with increasing silica (Wilson, 2007). The negative Eu anomaly in the high-K metagranites is complemented by enrichment of Ca in feldspars (Table 2) suggesting removal of Eu²⁺. This observation invokes partial melting origin for the high-K metagranites and retention of Eu in plagioclase at the source during melting.

One of the interesting features is the nearly consistent REE trend within a limited range of variation exhibited by the high-K metagranites. The variation in REE pattern of high-K metagranites may result from variations in the degree of melting of the source or from fractionation during solidification. The coherent REE behaviour suggests direct fractional crystallization process in their petrogenesis and rules out the possibilities of magma mingling and/or crustal contamination (Gromet and Silver, 1987). The dip observed in middle portion of the chondrite normalized REE diagram (Fig. 8) can be attributable to accessory phase fractionation during magmatic evolution (e.g., Glazner et al., 2008). The depletion in Zr and decreases in TiO₂ and P₂O₅ with increasing SiO₂ content show fractionation of accessory phases such as zircon, titanite and apatite (Hoskin et al., 2000; Broska et al., 2004). Thus, we assume that petrological and geochemical variations in these rocks have resulted from a combined process of magmatic differentiation (partial melting and fractional crystallization of the melt *en route* to higher crustal levels).

5.2. Nature of protolith and possible source

The characteristic negative anomalies for Ba, Sr, Nb and Ti, and enrichment of Rb, Th, K and La patterns in the high-K metagranites point towards the importance of crustal rocks in the magma source, and can be compared to the petrogenesis of the high-K granites of the Lachlan Fold belt (Chappell and White, 1992). The compositional, petrographic, accessory phase inheritance features in KKB high-K metagranites cannot be accounted by the classical models of petrogenesis. Therefore, we propose a melt-restite model for the genesis of high-K metagranites in the KKB, as in Lachlan Fold belt, where Chappell et al. (2000) recognized entrainment of magmatically equilibrated source material (restite) in a partial melt. Further, Chappell et al. (2000) argue that the variation in composition within suites of granites seen at Lachlan is due to the variation in the degree of separation of the melt and restite components. Similarly, the compositional variation in high-K metagranites of KKB can be

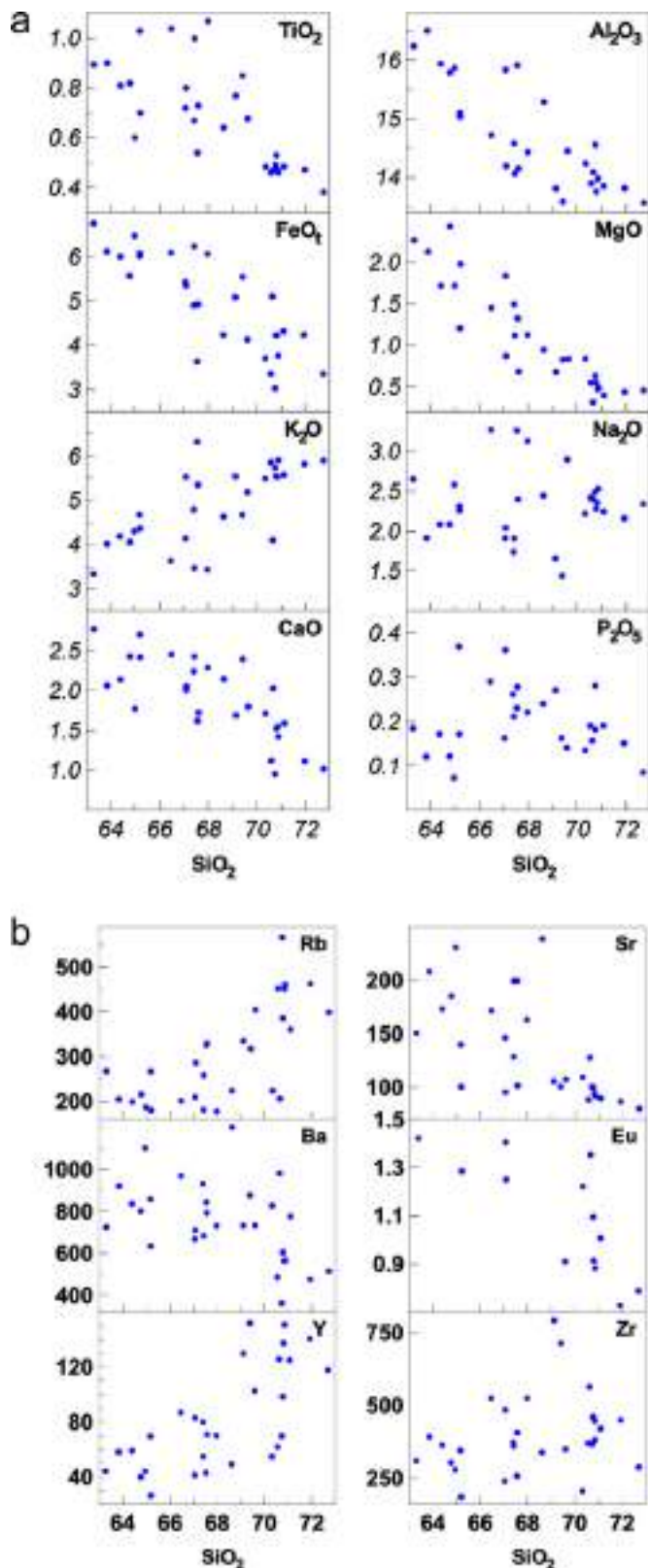


Fig. 4. Harker variation diagrams for selected (a) major oxides and (b) trace elements in the high-K metagranites.

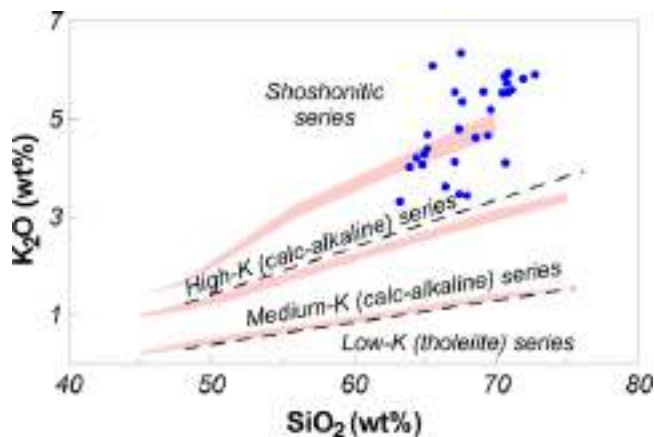


Fig. 5. Compositional characteristics of high-K metagranites on K_2O vs. SiO_2 diagram after Le Maitre (2002) showing high- to ultrahigh-K compositions. The shaded bands define the boundaries between the series.

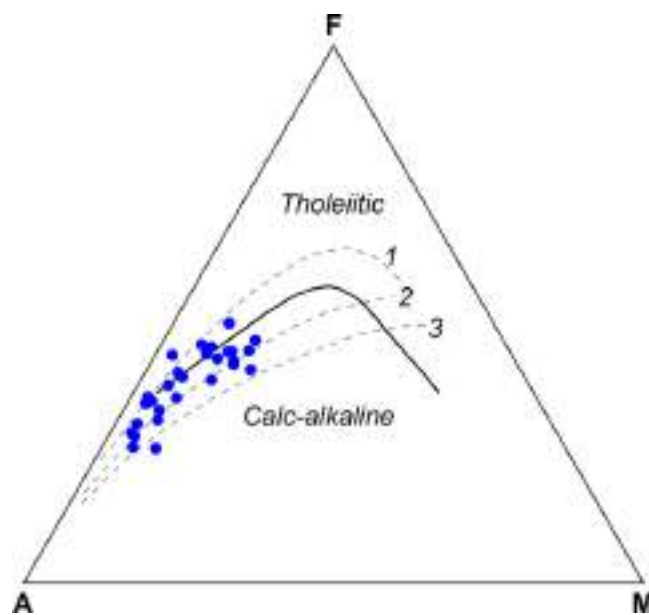


Fig. 6. AFM plot of the KKB high-K metagranites showing dominantly calc-alkaline affinity. The solid line defines the calc-alkaline/tholeiitic division after Irvine and Baragar (1971); the broken lines 1, 2, 3 are contours of increasing arc maturity (Brown, 1982; Janser, 1994).

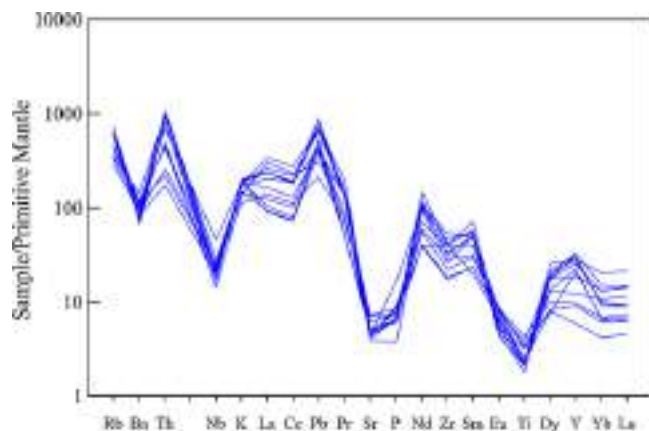


Fig. 7. Primitive mantle normalized multi-element distribution diagram for high-K metagranites. Normalizing data are after Sun and McDonough (1989).

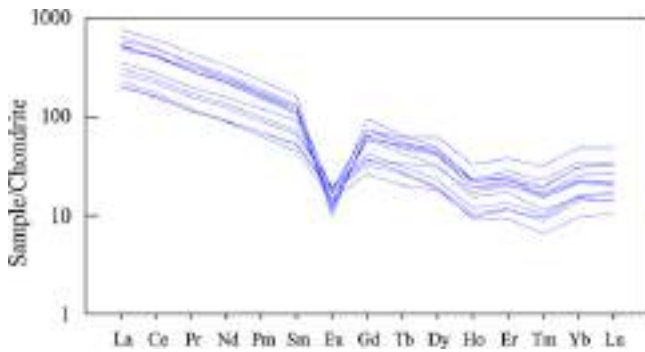


Fig. 8. Chondrite normalized (Boynnton, 1984) REE patterns of high-K metagranites showing sharp depletion of Eu.

attributed to the differences in the ratio of melt to restite produced during partial melting of the lower crustal components.

Several crustal sources for the generation of high-K granitoid magmas, such as felsic pelites, metagreywackes, amphibolites and/or metabasalt and metatonalites have been suggested based on experimental studies (Wolf and Wyllie, 1994; Roberts and Clemens, 1993; Patiño-Douce and Beard, 1996; Patiño-Douce, 1999). The compositional differences of magmas produced by partial melting of different crustal source rocks can be visualized in terms of major oxides ratios (Patiño-Douce, 1996). In order to identify the source of high-K metagranites, we have plotted their composi-

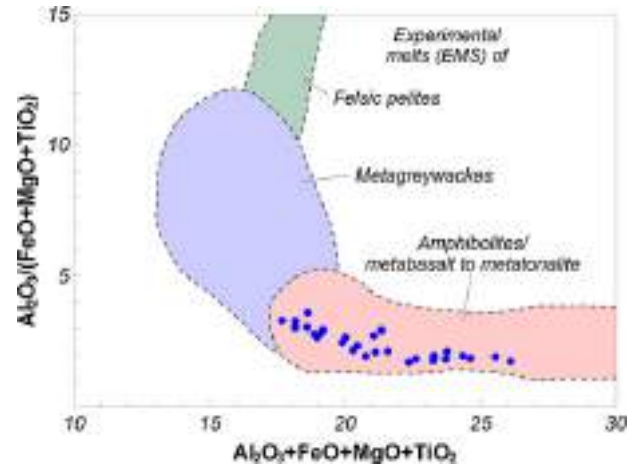


Fig. 10. Geochemical compositions of high-K metagranites in comparison to compositional fields of partial melts obtained in experimental studies by dehydration melting of various bulk compositions (Patiño-Douce, 1999; see Section 5.2 for explanation).

tions on $Al_2O_3/(FeO+MgO+TiO_2)$ vs. $Al_2O_3+FeO+MgO+TiO_2$ diagram (Fig. 10; Patiño-Douce, 1999). Fields of granite compositions corresponding to melting of various sources, as determined experimentally, are included for comparison. The KKB high-K metagranites with their low $Al_2O_3/(FeO+MgO+TiO_2)$ values plot in the amphibolite and metabasalt–metatonalite fields suggesting they most likely originated through partial melting of igneous source rocks. The moderate P_2O_5/TiO_2 values against MgO/CaO and relatively high K_2O contents further confirm their derivation by partial melting of calc-alkaline mafic to intermediate igneous rocks (probably tonalitic) and exclude the possibility of a felsic pelite and/or metagreywacke source (Werner, 1987; Roberts and Clemens, 1993).

The role of plagioclase in the source rock is evidenced by the large negative Eu anomalies and Sr-depleted nature of the high-K metagranites, which indicates partial melting of the precursors in the plagioclase stability field (Rudnick and Gao, 2003; Kemp and Hawkesworth, 2003). This observation confines the generation of precursor melts/magmas to lower- and mid-crust levels as plagioclase typically becomes unstable at upper parts of the middle crust. Thus, the composition of high-K metagranites is consistent with their derivation through melting of middle to lower tonalitic crust. There are known examples of K-rich granitoids generated by melting of tonalite–trondhjemite–granodiorite (TTG) gneisses (Frost et al., 1998; Moyen et al., 2003; Shang et al., 2007; Drüppel et al., 2009). Experimental results indicate derivation of high-K, calc-alkaline magmas on the partial melting of hydrous, calc-alkaline mafic to intermediate metamorphic rocks having TTG affinity (Carroll and Wyllie, 1989; Skjerlie and Johnston, 1992, 1993; Roberts and Clemens, 1993; Singh and Johannes, 1996; Watkins et al., 2007). Given the available petrological and geochemical constraints with support from experimental data, we confidently propose a partial melting model of crustal protoliths having compositions of metatonalites for the origin of high-K metagranites in the KKB.

There is no doubt that a more comprehensive understanding of the petrogenesis and source rock characteristics of the high-K metagranites will be achieved only through evaluation of isotope systematics. However, only limited isotope data are published on these rocks (see Braun and Kriegsman, 2003). The available geochronological, isotope or geochemical works were interpreted independently and mainly focused on defining metamorphic ages, except for recent works like Cenki et al. (2004) and Kröner et al. (2012) (see Braun and Kriegsman, 2003 for a

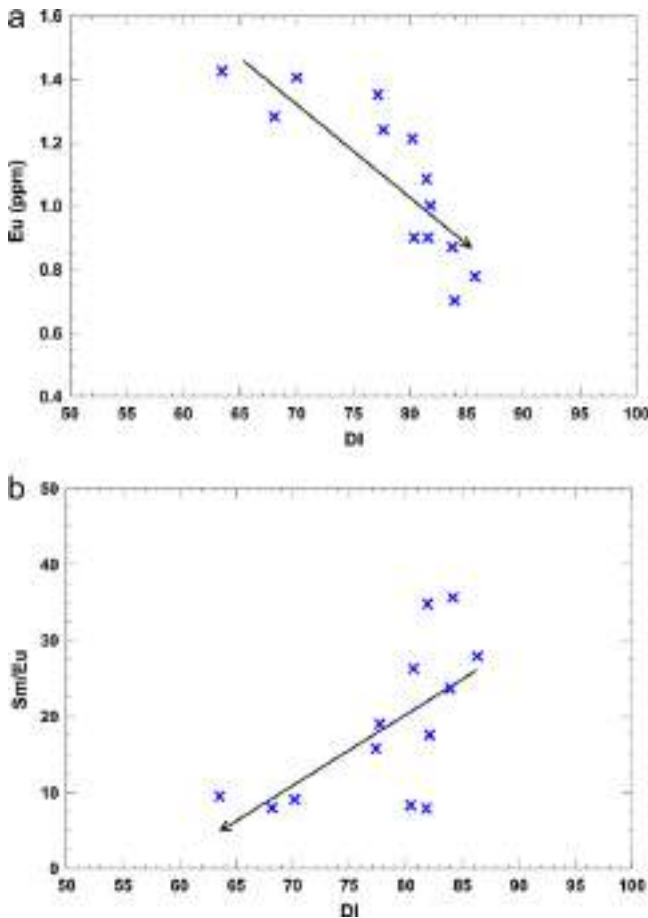


Fig. 9. Feldspar fractionation during intracrustal melting observed in the high-K metagranites as evidenced by (a) negative correlation between differentiation index (DI; Thornton and Tuttle, 1960) and Eu content, and (b) positive correlation between DI to Sm/Eu ratio (see Section 5.1 for explanation).

review of earlier works). The absence of systematic isotope geochemical and geochronological datasets hinders us from reaching a reliable conclusion on their petrogenesis in relation to tectonics. The isotopic data, mainly obtained by zircon and monazite (U–Pb) and whole-rock (Rb/Sr and Sm–Nd) studies, however, documented Palaeoproterozoic to Mesoarchaeal crustal protolith ages in this terrain (Cenki et al., 2004 and references therein). All the earlier workers, with the exception of Kröner et al. (2012) interpreted the zircon as detrital in origin, sourced from older terrains elsewhere. Further, the Palaeoproterozoic and Archaean ages were considered as mean crustal residence ages of the supracrustal protolith. This is mainly because the Rb/Sr, Sm/Nd and U/Pb fractionations are insensitive to intracrustal melting (Johnson et al., 1996; Kemp et al., 2010). Therefore, more robust isotope systems like Lu–Hf and Re–Os along with Sm–Nd are required to elucidate the origin of granites, intracrustal processes and the evolution of the continental crust (Johnson et al., 1996; Kinny and Maas, 2003; Kröner, 2010).

In a very recent study, Kröner et al. (2012) applied potentials of SHRIMP U–Pb and Lu–Hf isotope systematics in high-grade rocks of the KKB. They have shown evidences for the existence of Archaean to Mesoproterozoic crust within the KKB. Based on Hf isotope data, they suggested derivation of some rock groups of KKB from crustal melts generated from Archaean continental crust. This finding highly correlates with our model of intracrustal origin of the high-K metagranites in the KKB. The older metamorphic age documented from this rock group of KKB spans up to ~1800 Ma (Bartlett et al., 1998). This suggests crystallisation of the protolith for high-K metagranites before Palaeoproterozoic possibly in the Archaean. The age obtained by Kröner et al. (2012), indicates crystallization of the protolith of charnockite, a complimentary geochemical entity of high-K metagranites, at 1893 ± 13 Ma. This age is relatively older than the reported older metamorphic event from this terrain, which is also recorded in the high-K metagranites and specifies high-K metagranite and porphyritic granite crystallisations as separate events (see Section 2.1). The negative $\varepsilon_{\text{Hf}}(t)$ values (–6.1 to –9.2) obtained on zircons by Kröner et al. (2012) suggests formation of granitic melt by remelting older crustal rocks, possibly meta-igneous source extracted from a depleted mantle (Wu et al., 2006; Zheng et al., 2006; Kemp et al., 2010). The calculated Hf_c model ages vary between 2.73 and 2.89 Ga (Kröner et al., 2012), comparable to the reported whole-rock Nd model ages (Cenki et al., 2004). These features unambiguously reject juvenile magmatism and strengthen our observation on the role of intracrustal processes and melting of pre-existing lower crust for the origin of high-K metagranites.

5.3. Tectonic setting

The petrological and geochemical data allow us to place constraints on the tectonic environment of magma generation. Two main tectonic environments are capable of producing high-K granitic magmas. They are (i) a continental-arc setting (Cordilleran- or Andean-type; e.g., DePaolo, 1981; Hildreth and Moorbath, 1988) and (ii) syn- to post-collisional settings (Caledonian-type; Roberts and Clemens, 1993). We have noted that the KKB high-K metagranites are characterized by enrichment of few LILE (e.g., Rb, K) and LREE (La, Ce, Nd), and strong depletion in HFSE (Nb, Zr, Ti) elements. These chemical signatures are typical of calc-alkaline magmatism in active continental margins generated in a subduction-related (island-arc or continental-arc) tectonic setting (Floyd and Winchester, 1975; Sun and McDonough, 1989; Hawkesworth et al., 1991; Castillo et al., 2007). A notion which is well portrayed in the modified version of the La/Yb vs. Th/Yb tectonic discrimination diagram (Fig. 11; Kampunzu et al., 2003; Erkül et al., 2008), where all the samples fall within the ‘continental margin-arc’ field.

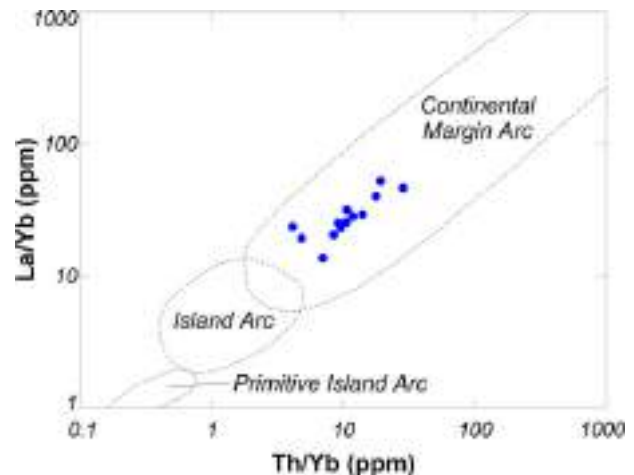


Fig. 11. Tectonomagmatic discrimination of high-K metagranites based on La/Yb vs. Th/Yb diagram (after Condie, 1989).

Trace elements have been widely used as discrimination tool to distinguish between different tectonic settings of granitoids. In the Rb vs. (Y + Nb) discrimination diagram (Fig. 12; Pearce et al., 1984), the samples spread across the fields of collision and intra-plate granitoids overlapping the post-collisional granitoid field. However, it is understood that LREE-enriched patterns with negative Eu anomalies are typical of many subduction related granitoids from both island arcs and active continental margins (e.g., Gromet and Silver, 1987). Further, the depletion in Nb and Ti relative to LILE and LREE and low Nb/La and Nb/Ta ratios observed in the present samples are distinctive features of convergent plate margin magmatism. The plausible tectonic scenario that can be assigned for the generation of high-K metagranites is lower crustal melting of an igneous source in a subduction related environment. The observed post-collisional trend may therefore be interpreted as indicative of an increasing arc maturity (Brown et al., 1984; see also Fig. 6) and evolved nature of the granitoid magma. The major, trace, and rare earth element patterns in the samples indicate progressive magmatic differentiation processes for the production of high-K magma in a mature continental-arc (Förster et al., 1997).

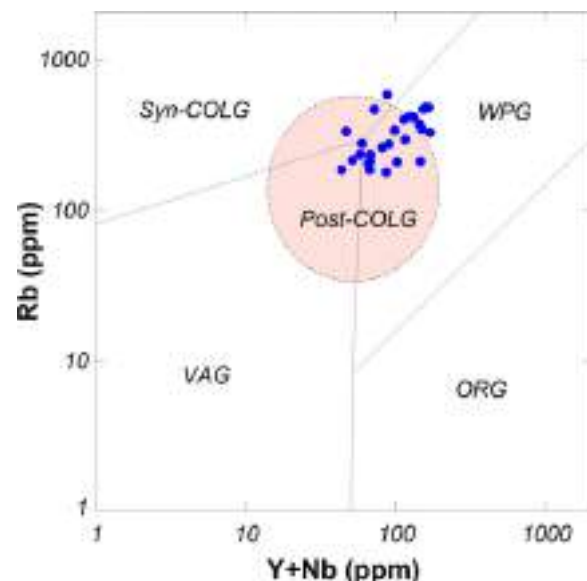


Fig. 12. Geochemical composition of the high-K metagranites in the Rb vs. (Y + Nb) tectonic discrimination diagram of Pearce et al. (1984).

5.4. India–Sri Lanka–Madagascar Connection

Starting from the early studies, the fit of Madagascar with India has always been problematic as the eastern margin of Madagascar is extremely linear. As such it can fit virtually anywhere along the western margin of India. Connections between the orogenic components of India, Sri Lanka, and Madagascar were first recognized by Du Toit (1937), which has led to several later works (e.g., Katz and Premoli, 1979; Rogers et al., 1995; Windley and Razakamanana, 1996; Yoshida and Santosh, 1996). A well-founded juxtaposition of Proterozoic segments occurring in southern India, Madagascar, and Sri Lanka is a principal requisite for understanding tectonic relationships and orogenic events associated with the Gondwana assembly. The existing models, mainly depending on the crustal architecture of the Neoproterozoic time compare a common tectonothermal exhumation of all these continental fragments and suggest juxtaposition during this period (see papers in Yoshida et al., 2003). It is well known that the crustal evolution history of India, Sri Lanka, and Madagascar are not restricted to Neoproterozoic period (see papers in Raith and Hoernes, 1994 [Sri Lanka]; de Wit et al., 2001 [Madagascar]; Braun and Kriegsman, 2003 [south India and Sri Lanka]). However, there is no clear understanding on the Archaean to Mesoproterozoic supercontinent amalgamation history shared by all these terranes. The major shortcoming in the reconstruction of pre-Neoproterozoic juxtaposition is the lack of petrogenetically and geodynamically relevant geochronological data set from all these terranes.

Müller (2000) distinguished southern Madagascar as a distinct terrane during Archaean, which has accreted to the central terrane. Later studies, however, could not document a distinct geochronological variation between southern and central Madagascar (de Wit et al., 2001; de Wit, 2003). Similarly, two-stage collision model was proposed for the amalgamation of HC, Wannai (WC), and Vijayan Complexes (VC) of Sri Lanka (Kehelpannala, 2006). These arguments favour separate pre-Gondwana (Neoarchaean and/or Palaeoproterozoic) positions for different crustal blocks within Sri Lanka and Madagascar that occupy together in the Neoproterozoic configuration. A well-founded juxtaposition of Proterozoic segments occurring in southern India, Madagascar, and Sri Lanka is a principal requisite for understanding tectonic relationships and orogenic events associated with the Gondwana assembly. Data gathered in recent years, for e.g., models for the petrogenesis of granitoids have provided new insights and scope for reassessment of the geologic characteristics of each area, and their juxtaposition models.

Accumulating evidences indicate that the exposed lower crust in HC of Sri Lanka and southern Madagascar consists mostly of Meso- to Paleoproterozoic crust with some late Archaean material heavily reworked in the Neoproterozoic (Milisenda et al., 1994; Raith and Hoernes, 1994 and references therein; de Wit et al., 2001; Cox et al., 2004). The crystallization (U–Pb zircon) ages of the precursor magmas have been reported mainly from HC fall in the range from 1.95 to 1.85 Ga (Baur et al., 1991; Kröner and Williams, 1993; Hölzl et al., 1994). There are, however, no precise U–Pb ages in Madagascar corresponding to Palaeo- and/or Mesoproterozoic giving indisputable evidences for magmatic crystallization. The metasedimentary cover forming the Itremo Group shows abundance of 1.85 Ga age populations for detrital zircons suggesting late Archaean to Palaeoproterozoic source (Cox et al., 1998, 2004; Tucker et al., 2011). Kröner et al. (1999) and Müller (2000) estimated Pb–Pb ages of 1.9–1.85 Ga from southern Madagascar and proposed the existence of a small basement component of Palaeoproterozoic age. We speculate the collision model proposed by Kehelpannala (2006) for the amalgamation of the Wannai, Highland and Vijayan complexes of Sri Lanka as the controlling factor for the genesis of arc related granitoids. The arc accretion by two-stage collision

was considered as the final mark in the assembly of Gondwana around Sri Lanka. Although, granitoids with continental magmatic arc affinity in south and central Madagascar (Brewer et al., 2001) were supported the arc accretion scenario, precise crystallization ages of arc-related granitoids are yet to be achieved. These models suggest the pre-Gondwana amalgamation of microcontinents along southern parts of Sri Lanka and Madagascar by continent-arc accretion. The arc-accretion scenario was thoroughly doubted since there were no reports on Proterozoic arc-related granitoids from southern India. Most previous workers suggest an entirely sedimentary origin of rocks in the KKB (e.g., Chacko et al., 1992). Therefore, the Proterozoic continental assembly did not provide evidences for the linkage of Sri Lanka and Madagascar with India. The major crust forming magmatic event reported, so far from the KKB restricts to porphyritic granite magmatism (Braun et al., 1998). In a very recent study, Kröner et al. (2012) substantiated this observation and recognized the vestiges of Palaeoproterozoic magmatic crust within KKB. However, these observations failed to establish geodynamic constraints on the internal Proterozoic tectonic evolution of southern India. The present study, documenting hitherto unrecognized major magmatic crust forming event in the KKB, comparable to the arc accretionary complex setting proposed for Sri Lanka and Madagascar acquires immense significance. We infer from the common magmatic activities documented in all these terrains, possibly pointing to a crustal reworking episode in the Palaeoproterozoic, that the arc-formation process was an important event associated with the supercontinent episode. Given the limited number of geochronological data, more isotope and precise geochronological data are required to test this hypothesis and draw a plausible conclusion on the Palaeoproterozoic and Archaean crustal evolution in all these terranes. It is envisaged that further *in situ* U–Pb zircon studies could very well reveal the occurrence of widespread Archaean and Palaeo- to Mesoproterozoic crustal evolution and magmatic events in these terrains, as the recent finding of Kröner et al. (2012) from southern India.

6. Conclusions

New petrogenetic and tectonic discrimination using new geochemical major and trace element data on the high-K metagranites of the KKB suggests possibilities for subduction-related origin for these rocks, most probably by partial melting of igneous rock in a continental margin arc environment. This study lays a foundation for a new geochemical comparison of the KKB orthogneisses with the granite–ademellite rocks of Sri Lankan Highland Complex (Prame, 1997) and Meso- to Neoproterozoic plutons occurring in south central Madagascar, which are now been interpreted as products of a continental magmatic–arc system (Brewer et al., 2001). Our new results provide insights into the Proterozoic crustal development in Gondwana supercontinent and strong evidence for an improved fit to the once contiguous fragments of Gondwana. Further, our study places constraints on the existing models regarding the position of India within the supercontinent Gondwana and its relation with Sri Lanka and Madagascar during Proterozoic supercontinent cycle.

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Pervasive lower crustal melting and granite genesis in southern India: mechanisms of magma differentiation and rheological equilibration in continental-arc roots

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Abstract: Comprehensive studies of well-preserved orogenic belts reveal that the continental crust generated at accretionary margins generally acquire contrasting compositions from that of underlying primary basaltic material. Although major process that lead to juvenile addition of continental crust via accretion of intra-oceanic volcanic arcs is well understood, the processes that advance the compositional diversification of primary magma are not yet fully understood. In this context we examine the geochemical and thermo-mechanical characteristics of magmatic pattern preserved in the Kerala Khondalite Belt (KKB), a Proterozoic section of exhumed roots of magmatic arc, within the southern Indian granulite belt and address the problem of magma differentiation and possible mechanism of ascent to middle-crust levels.

Introduction

Precambrian shields of the most continental fragments comprise high-grade terranes represented by granulite-facies mineral assemblages (see, Harley, 1989). The ubiquitous presence of granulites suggests that high-grade metamorphism as one of the key processes in the origin and evolution of Precambrian deep crust. The formation of regional granulite-facies terranes represents major crustal formation or tectonic episodes in varying extents on all continents. Therefore, comprehensive studies on such rarely preserved, regional granulite-facies terrains provide an opportunity to understand the processes of origin and evolution of continental crust, that otherwise remain as a fundamental paradox in intriguing areas of Earth science research.

The granulite blocks of southern India, well known as the southern granulite terrain (SGT), are classic examples of such a deeply eroded continental basement. In this paper, we evaluate the geochemical and thermo-mechanical characteristics of magmatic

pattern preserved in the Kerala Khondalite Belt (KKB), a Proterozoic orogenic component and address the problem of magma differentiation, high-grade metamorphism and exhumation of the lower crust in the KKB.

Rheology and crustal evolution

The recently proposed tectonic model for the genesis of high-K metagranites in the KKB suggests involvement of magmatic-arc accretion in their genesis, indicating a major crustal thickening following continental collision (Sreejith and Ravindra Kumar, 2013). Based on phase relation studies on the nature of crustal anatexis and migmatization, Sreejith and Ravindra Kumar (2012) suggested a two-stage crustal evolution model. They identified thickening of the crust in relation to a continental-arc setting, which initiated crustal anatexis and modified lower crustal rheology, thus causing exhumation along a high-temperature stable geotherm with sufficient pressure release associated with syn- to post-convergence transpression and transtension.

The tectonic scenarios for the formation of metatonalites and high-K metagranites can be summarized as follows: (1) low- to moderate-degree partial melting of hydrated basaltic crust at pressures high enough to stabilize garnet-amphibole residue for the formation of tonalitic magma and (2) continental arc-accretion directed to an episode of crustal remelting of the tonalitic crust, within plagioclase stability field for the production of granites.

The process of intracrustal melting and granite genesis might have induced rheological perturbations in the lower continental crust of KKB. Calculations based on molar volumes of major oxide concentrations (Bottlinga and Weill, 1970), indicate that density of the original, hydrous magma with lowest silica content would have been 2740 kg m⁻³ (tonalite with SiO₂ = 61.99

wt.%) and 2460 kg m⁻³ (granite; SiO₂ = 63.30 wt.%) at P=0.1 Mpa and T=1200°C with ~1 wt.% H₂O in the melt. At these conditions the tonalitic magma has an effective viscosity of 10^{1.24} Pa s and granites have 10^{5.60} Pa s. These observations ascertain gravitational instability in the newly accreted crust, owing to phase transformations that produce dense minerals like garnet as (eclogite or garnet amphibolite) residue. The density difference of ~250 kg m⁻³ in the granite liquid might have induced rheological reequilibration in the continental-arc root, as melt buoyancy considerably decreased the bulk density of the lithosphere leading to rapid exhumation of the lower crust. This remark supports the rheological (thermal and mechanical) reequilibration and rapid erosional exhumation model proposed for the final stages of orogeny obtained by phase relations models and subduction-accretion-collision tectonics (Fig. 1)

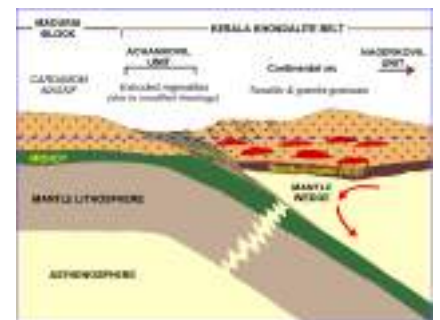


Fig. 1. Cartoon showing the simplified and generalised evolution of the arc-accretion along Achankovil suture zone.

Timing and episodic nature of crustal growth

A comprehensive understanding of the petrogenesis and source rock characteristics of the metagranitoids of the KKB will be achieved only through evaluation of isotope systematics. However, only limited isotope data are published on these rocks (see Braun and Kriegsman, 2003). The available geochronological, isotope or geochemical

works were interpreted independently and mainly focused on defining metamorphic ages, except for recent works like [Cenki et al. \(2004\)](#) and [Kröner et al. \(2012\)](#). The isotopic data, mainly obtained by zircon and monazite (U–Pb) and whole-rock (Rb–Sr and Sm–Nd) studies, however, documented Palaeoproterozoic to Mesoproterozoic crustal protolith ages in this terrain. Most of these studies report crustal residence (modal) ages (T_{DM}) rather than crystallization ages. Available geochronological data from this terrain also points to multiple stages of metamorphism and crustal growth.

In a very recent study, [Kröner et al. \(2012\)](#) applied potentials of SHRIMP U–Pb and Lu–Hf isotope systematics in high-grade rocks of the KKB. They have shown evidences for the Mesoproterozoic (1893 ± 13 Ma) magmatic crust forming event within the KKB on massive charnockite samples (a complementary geochemical entity of high-K metagranites of the present study). The negative $\epsilon_{Hf}(t)$ values (-6.1 to -9.2) obtained on zircons from these samples by [Kröner et al. \(2012\)](#) suggests formation of granitic melt by remelting of older crustal rocks, possibly meta-igneous source extracted from a depleted mantle. These features unambiguously reject juvenile magmatism and highly correlate with the proposed model of intracrustal origin of the high-K metagranites. The calculated Hf_c model ages (2.73 and 2.89 Ga) imply Neoproterozoic source for the zircons in the granitic charnockite sample ([Kröner et al., 2012](#)), comparable to the reported whole-rock Nd model ages ([Cenki et al., 2004](#)). These features unambiguously reject juvenile magmatism and strengthen the role of intracrustal melting and magmatic differentiation for the petrogenesis of high-K granites within the KKB

Summary and conclusions

The calc-alkaline tonalitic and granitic rocks of the KKB record complimentary geochemical characteristics. Low contents of Y and Ti and high $[La/Yb]_N$ ratios in tonalites are suggestive of melting and removal of garnet, titanite and/or ilmenite in the source. Therefore tonalites are identified as product of partial melting of metamorphosed hydrated basaltic lower crust, under fluid present conditions. On the contrary, the geochemistry of granites with significant negative Eu anomaly and relatively high Rb/Sr and Ba/Sr ratios indicate magmatic fractionation produced by reworking of early crust. The tectonic scenarios for the formation are: (1) low- to moderate-degree partial melting of hydrated basaltic crust at pressures high enough to stabilize garnet-amphibole residue for the formation of tonalitic magma and (2) continental arc-accretion directed to an episode of crustal remelting of the tonalitic crust, within plagioclase stability field for the production of granites. Calculations based on molar volumes of major oxide concentrations ([Bottinga and Weill, 1970](#)), indicate that the density of the original, hydrous magma with lowest silica content would have been 2740 kg/m^3 (tonalite with $\text{SiO}_2 = 61.99 \text{ wt.}\%$) and 2460 kg/m^3 (granite; $\text{SiO}_2 = 63.30 \text{ wt.}\%$) at $P=0.1 \text{ Mpa}$ and $T=1200^\circ\text{C}$ with $\sim 1 \text{ wt.}\% \text{ H}_2\text{O}$ in the melt. At these conditions the tonalitic magma has an effective viscosity of $10^{1.24} \text{ Pa s}$ and granites have $10^{5.60} \text{ Pa s}$. These observations ascertain gravitational instability in the newly accreted crust, owing to phase transformations that produce dense minerals like garnet as (eclogite or garnet amphibolite) residue. The density difference of $\sim 250 \text{ kg/m}^3$ in the granite liquid might have induced rheological reequilibration in the continental-arc root, as melt buoyancy considerably decreased the bulk density of the lithosphere. Therefore, the final stages of the orogeny will

lead to rapid exhumation along a high-temperature stable geotherm with sufficient pressure release associated with syn- to post-convergence transpression and transtension. Our study demonstrates intracrustal melting and differentiation in continental arcs as one of the possible mechanisms for magma diversification and rheological modifications for the formation of granitic to granodioritic continental crust.

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Internal Quality Assurance Cell

MES Ponnani College

Affiliated to the University of Calicut.

Ponnani South P.O, Malappuram (Dist), Kerala - 679586

Web: www.mesponnanicollege.org; email: principal.mesponnani@gmail.com

Date: 23-11-2018

Consolidated Certificate for Internal Responsibilities of Teachers

Name : Dr. C. Sreejith
Designation : Assistant Professor
Department : PG Studies & Research in Geology
Assessment Period : 21-02-2011 to 10-04-2015
Time Period of Certificate : 2014 - 2015

SI No.	Claims of the Teacher	Record of Reference	Remarks
1.	Teaching workload	Workload as per University Proforma II	
2.	Examination invigilation/ conduct of practical examinations – Duties assigned by home university and other universities	Exam duty register; Duty certificates	
3.	Question paper setting, valuation of answer scripts and invigilation duty of internal examinations	Question paper and internal assessment registers	
4.	Attendance in CV Camps of University Examinations	Duty certificates	
5.	Field Work / Mapping Camp	Office Proceeding for the conduct of study tour/ Mapping Camp	
6.	Member of the organizing committee, College Arts festival & Sports Day, duties related to Students Union, and other departmental activities	College Reports; Minutes of College Council/ Department Council	
7.	Presiding Officer; General elections to Parliament Constituency	Order of the Election Commission of Kerala	
8.	Member of PTA and Anti-harassment cell	Minutes of College Council	

Certified that the information given-above are verified with records of reference cited in each item and found correct.

Dr. V.K. Brijesh
IQAC Coordinator

Capt. M.N. Mohamed Koya
Principal



National Workshop on
**Continental Crust and Cover Sequences in the
Evolution of the Indian Sub-Continent**

January 20-21, 2015

This is to certify that Mr. C. Sreejith, Dept. of PG Studies & Research in Geology, M.F.S. Ponnani College has participated in the National Workshop on Continental Crust and Cover Sequences in the Evolution of the Indian Sub-Continent during January 20-21, 2015 at ESSO-National Centre for Earth Science Studies, Ministry of Earth Sciences, Govt. of India, Thiruvananthapuram and presented a poster.

Dr. T. Radhakrishna
Chairman, Organising Committee

Dr. N. P. Kurian
Director, ESSO-NCESS



University of Kerala
Department of Geology
(Golden Jubilee: 1963-2013)

UGC - SAP - DRS II (2013 - 2018)

Seminar on

Shear Zones and Crustal Blocks of Southern India

Certificate

Certified that Dr / Mr / Ms *C. Sreejith*, Department of *Geology*, *M.E.S. College*,
Ponnani

has delivered an invited keynote address on *From sea to highlands: the story of origin and exhumation of granulite facies rocks in Kerala Khondalite Belt, Southern India*

in the UGC SAP DRS II (2013 - 2018) Seminar on Shear Zones and Crustal Blocks of Southern India on 29th March 2014 organised by the Department of Geology, University of Kerala

Dr. E. Shaji
Deputy Coordinator
UGC - SAP - DRS II



Dr. A. P. Pradeepkumar
Coordinator
UGC - SAP - DRS II



UNIVERSITY OF CALICUT

Abstract

General and Academic Branch - Private Aided Colleges Affiliated to the University - Establishment - Approval to the promotion of Smt. Siji Varghese.V, Assistant Professor, Department of Commerce, MES Ponnani College, Ponnani, from Assistant Professor Stage 1, in the pay band of ₹15,600- 39,100/- with Academic Grade Pay of ₹6,000/- to Assistant Professor Stage 2 in the pay band of ₹15,600- 39,100/- with Academic Grade Pay of ₹7,000/-, with effect from 14.02.2011 F.N, under Career Advancement Scheme - Fixation of pay consequent to promotion - Resolution of the meeting of the Standing Committee on Staff of Affiliated Colleges held on 02.03.2020, as per Item No.40 - Implemented - Orders issued.

G&A-II-Special Cell-II

U.O.No. 4255/2020/Admn

Dated, Calicut University.P.O, 06.05.2020

- Read:-**1. Letter No.E1/Estt/Placement/2019 dated 10.05.2019 & Letter No.E1/Estt/Placement/2018 dated 30.11.2019.
2.Notification No.3696/GA-I-F1/2013/CU dated 26.02.2014.
3.University Order No.GA II/A3/1040/2005 dated 09.12.2005.
4.G.O.(P) No.58/2010/H.Edn. dated 27.03.2010.
5.Minutes of the meeting of the Screening cum Evaluation Committee held on 28.03.2017.
6.Item No.40 of the minutes of the meeting of the Standing Committee on Staff of Affiliated Colleges held on 02.03.2020.
7.University Order No.11150/2017/Admn dated 02.09.2017.

ORDER

As per the paper read (1), the Principal, MES Ponnani College, Ponnani, forwarded the proposal for granting approval to the promotion of Smt. Siji Varghese.V, Assistant Professor, Department of Commerce from Assistant Professor Stage 1 in the pay band of ₹ 15,600-39,100/- with Academic Grade Pay of ₹ 6,000/- to Assistant Professor Stage 2 in the pay band of ₹15,600-39,100/- with Academic Grade Pay of ₹ 7,000/-, with effect from 14.02.2011 F.N. under Career Advancement Scheme and fixation of pay consequent to promotion.

2. As per the Amended Regulations 2014, notified vide paper read as (2), Assistant Professor in Stage 1 and completed four years of service with Ph.D. or five years of service who are with M.Phil /P.G. Degree in Professional Courses such as LL.M, M.Tech, MV.Sc., M.D., or six years of service who are without Ph.D./M.Phil./P.G.Degree in Professional Courses is eligible for promotion as Assistant Professor Stage 2, through a Screening cum Evaluation process, if they fulfill the minimum academic performance requirements and other conditions for promotion.

3. As per the paper read (3), the University of Calicut approved the appointment of Smt. Siji Varghese.V as Lecturer in the Department of Commerce at MES Ponnani College, Ponnani, with effect from 14.02.2005 F.N. In accordance with the provisions in the Government Order read as (4), the Deputy Director of Collegiate Education, Kozhikode, had re-designated the post of the incumbent as Assistant Professor with effect from 01.01.2006. She has completed six years of regular service as Assistant Professor Stage 1 on 13.02.2011 A.N. She has participated in one UGC sponsored Orientation Programme (from 18.11.2010 to 15.12.2010) and in one Refresher Course (from 21.02.2008 to 12.03.2008), both conducted by the UGC - Academic Staff College, University of Calicut.

4. As per the paper read (5), the duly constituted Screening cum Evaluation Committee, at its meeting held on 28.03.2017, verified the FBAS records and supporting documents of Smt. Siji Varghese.V and found that the teacher has sufficient API scores in each category- I,II & III, and is qualified for promotion to the post of Assistant Professor Stage 2 (AGP - 7,000/-) with effect from 14.02.2011 F.N. On the basis of the recommendation of the Screening cum Evaluation Committee, the Correspondent & Chairman, Standing Committee on MES Colleges, Calicut, has promoted Smt. Siji Varghese.V as Assistant Professor Stage 2 (AGP- ₹7,000/-) with effect from 14.02.2011 F.N. Considering the matter, the Vice Chancellor ordered to place the proposal for approval of the promotion of Smt. Siji Varghese.V, before the Standing Committee of the Syndicate on Staff of Affiliated Colleges.

5. As per the paper read (6), the Standing Committee of the Syndicate on Staff of Affiliated Colleges, at its meeting held on 02.03.2020, resolved to approve the promotion granted to Smt. Siji Varghese.V, Assistant Professor, Department of Commerce, MES Ponnani College, Ponnani, from

Assistant Professor Stage 1, in the pay band of ₹15,600-39,100/- with Academic Grade Pay of ₹ 6,000/- to Assistant Professor Stage 2 in the pay band of ₹ 15,600-39,100/- with Academic Grade Pay of ₹ 7,000/- with effect from 14.02.2011 F.N., under Career Advancement Scheme and fixation of pay consequent to promotion.

6. As per the paper read (7), the powers to grant approval to the promotion of teachers in Private Affiliated Colleges is delegated to the Vice Chancellor, if it is recommended by the Standing Committee of the Syndicate on Staff of Affiliated Colleges.

7. In the light of the above facts, sanction has been accorded by the Vice Chancellor for implementing the aforesaid resolution of the Standing Committee on Staff of Affiliated Colleges, granting approval to the promotion of Smt. Siji Varghese.V, as given below:

Name of the teacher & Department	Stage to which promoted	Date of effect	Courses attended	Basic pay before the date of promotion & pay band	Basic pay fixed on the date of promotion & pay band i.e, as on 14.02.2011 F.N.	Basic pay fixed on the date of option & pay band (i.e.with effect from 01.07.2011)	Date of next increment	Remarks
1	2	3	4	5	6	7	8	9
Smt.Siji Varghese.V, Assistant Professor, Department of Commerce, MES Ponnani College, Ponnani	Assistant Professor Stage 2	14.02.2011 F.N.	UGC sponsored Orientation Programme (from 18.11.2010 to 15.12.2010) & Refresher Course (from 21.02.2008 to 12.03.2008), both conducted by UGC-Academic Staff college, University of Calicut	₹ 19,050/- + AGP ₹ 6,000/- in the pay band of ₹ 15,600-39,100/- with Academic Grade Pay of ₹ 6,000/-	₹ 19,050/- + AGP ₹ 7,000/- in the pay band of ₹ 15,600-39,100/- with Academic Grade Pay of ₹ 7,000/-	₹ 20,590/- + AGP ₹ 7,000/- in the pay band of ₹ 15,600-39,100/- with Academic Grade Pay of ₹ 7,000/-	01.07.2012	Smt.Siji Varghese.V has opted to have the fixation of her pay on the date of increment, i.e, as on 01.07.2011 as per provisions in G.O.(P) No.58/2010/H.Edn dated 27.03.2010 & G.O.(P) No.234/2012/H.Edn dated 28.06.2012.

8. The resolution as per Item No.40 of the minutes of the meeting of the Standing Committee on Staff of Affiliated Colleges held on 02.03.2020, is therefore implemented.

Muhammed Basheer P

Assistant Registrar

To
The Principal, MES Ponnani College, Ponnani

Copy to:-

- (1)The Individual concerned (through the Principal)
- (2)The Educational Agency (through the Principal)
- (3)The Deputy Director of Collegiate Education, Calicut
- (4)The Director of Collegiate Education, Thiruvananthapuram
- (5) Convenor, SC on SAC
- (6) PS to VC/PA to Registrar, SF/DF/FC

Forwarded By Order

Section Officer



UNIVERSITY OF CALICUT

Abstract

General and Academic Branch - Private Aided Colleges Affiliated to the University - Establishment - Approval to the promotion of Dr.Sina.A.R, Assistant Professor, Department of Hindi, MES Ponnani College, Ponnani, from Assistant Professor Stage 2, in the pay band of ₹15,600- 39,100/- with Academic Grade Pay of ₹7,000/- to Assistant Professor Stage 3, in the pay band of ₹15,600- 39,100/- with Academic Grade Pay of ₹8,000/-, with effect from 17.02.2014 F.N, under Career Advancement Scheme - Fixation of pay consequent to promotion - Resolution of the meeting of the Standing Committee on Staff of Affiliated Colleges held on 02.03.2020, as per Item No.41 - Implemented - Orders issued.

G&A-II-Special Cell-II

U.O.No. 4256/2020/Admn

Dated, Calicut University.P.O, 06.05.2020

- Read:-*1.Letter No.E1/Estt/placement/2019 dated 10.05.2019 & Letter No. E1/Estt/Placement/2018 dated 30.11.2019.
2.Notification No.3696/GA-I-F1/2013/CU dated 26.02.2014.
3.University Order No.GAII/A3/1040/2005 dated 10.08.2005.
4.G.O.(P) No. 58/2010/H.Edn. dated 27.03.2010.
5.University Order No.GA II/Spl.Cell/1/1531/09 dated 13.07.2009.
6.Minutes of the meeting of the Screening cum Evaluation Committee held on 30.03.2017.
7.Item No.41 of the minutes of the meeting of the Standing Committee on Staff of Affiliated Colleges held on 02.03.2020.
8.University Order No.11150/2017/Admn dated 02.09.2017.

ORDER

As per the paper read (1), the Principal, MES Ponnani College, Ponnani, forwarded the proposal for granting approval to the promotion of Dr. Sina.A.R, Assistant Professor, Department of Hindi from Assistant Professor Stage 2 in the pay band of ₹ 15,600-39,100/- with Academic Grade Pay of ₹ 7,000/- to Assistant Professor Stage 3 in the pay band of ₹15,600-39,100/- with Academic Grade Pay of ₹8,000/-, with effect from 17.02.2014 F.N. under Career Advancement Scheme and fixation of pay consequent to promotion.

2. As per the Amended Regulations of 2014, notified vide paper read as (2), Assistant Professor with completed service of five years in Stage 2 is eligible for promotion as Assistant Professor Stage 3, through a screening cum evaluation process, if they fulfill the minimum academic performance requirements and other conditions for promotion.

3. As per the paper read (3), the appointment of Dr. Sina.A.R as Lecturer in the Department of Hindi with effect from 17.02.2005 F.N. was approved by the University of Calicut. In accordance with the provisions in the Government Order read as (4), the Deputy Director of Collegiate Education, Kozhikode, had re-designated the post of the incumbent as Assistant Professor with effect from 01.01.2006. He is a Ph.D Degree holder (31.01.2004, University of Kerala) and on completion of 4 years of service, he was placed as Lecturer Senior Scale (Assistant Professor Stage 2) with effect from 17.02.2009 FN which was approved by the University of Calicut as per paper read as (5). He has participated in UGC Sponsored Refresher Course (from 22.11.2013 to 12.12.2013), conducted by Academic Staff College, University of Calicut.

4. As per the paper read (6), the duly constituted Screening cum Evaluation Committee, at its meeting held on 30.03.2017, verified the PBAS records and supporting documents of Dr. Sina.A.R and found that the teacher has sufficient API scores in each category- I, II & III, and is qualified for promotion to the post of Assistant Professor Stage 3 (AGP- ₹ 8,000/-) with effect from 17.02.2014 F.N. On the basis of the recommendation of the Committee, the Correspondent & Chairman, Standing Committee on MES Colleges, Calicut, has promoted Dr. Sina.A.R as Assistant Professor Stage 3 (AGP- ₹ 8,000/-) with effect from 17.02.2014 F.N. Considering the matter, the Vice Chancellor ordered to place the proposal for approval of the promotion of Dr. Sina.A.R before the Standing Committee on Staff of Affiliated Colleges.

5. As per the paper read (7), the Standing Committee of the Syndicate on Staff of Affiliated Colleges, at its meeting held on 02.03.2020, resolved to approve the promotion granted to Dr. Sina.A.R, Assistant

Professor, Department of Hindi, MES Ponnani College, Ponnani, from Assistant Professor Stage 2, in the pay band of ₹15,600-39,100/- with Academic Grade Pay of ₹ 7,000/- to Assistant Professor Stage 3 in the pay band of ₹15,600-39,100/- with Academic Grade Pay of ₹ 8,000/- with effect from 17.02.2014 F.N., under Career Advancement Scheme and fixation of pay consequent to promotion.

6. As per the paper read (8), the powers to grant approval to the promotion of teachers in Private Affiliated Colleges is delegated to the Vice Chancellor, if it is recommended by the Standing Committee of the Syndicate on Staff of Affiliated Colleges.

7. In the light of the above facts, sanction has been accorded by the Vice Chancellor for implementing the aforesaid resolution of the Standing Committee on Staff of Affiliated Colleges, granting approval to the promotion of Dr. Sina.A.R, as given below:

Name of the teacher & Department	Stage to which promoted	Date of effect	Courses attended	Basic pay before the date of promotion & pay band	Basic pay fixed on the date of promotion & pay band i.e, as on 17.02.2014 F.N.	Basic pay fixed on the date of option & pay band (i.e. with effect from 01.07.2014)	Date of next increment	Remarks
1	2	3	4	5	6	7	8	9
Dr.Sina.A.R, Assistant Professor, Department of Hindi, MES Ponnani College, Ponnani	Assistant Professor Stage 3	17.02.2014 F.N.	UGC sponsored Refresher Course (from 22.11.2013 to 12.12.2013) conducted by UGC-Academic Staff College, University of Calicut	₹ 23,200/- + AGP ₹ 7,000/- in the pay band of ₹ 15,600-39,100/- with Academic Grade Pay of ₹ 7,000/-	₹ 23,200/- + AGP ₹ 8,000/- in the pay band of ₹ 15,600-39,100/- with Academic Grade Pay of ₹ 8,000/-	₹ 25,050/- + AGP ₹ 8,000/- in the pay band of ₹ 15,600-39,100/- with Academic Grade Pay of ₹ 8,000/-	01.07.2015	Dr. Sina.A.R has opted to get his pay fixed on the date of increment, i.e, as on 01.07.2014 F.N. as per provisions in G.O.(P) No.58/ 2010/ H.Edn dated 27.03.2010 & G.O.(P) No.234/2012/H.Edn dated 28.06.2012

8. The resolution as per Item No.41 of the minutes of the meeting of the Standing Committee on Staff of Affiliated Colleges held on 02.03.2020, is therefore implemented.

Muhammed Basheer P


Assistant Registrar

To

The Principal, MES Ponnani College, Ponnani

Copy to:-

- (1)The Individual concerned (through the Principal)
- (2)The Educational Agency (through the Principal)
- (3)The Deputy Director of Collegiate Education, Calicut
- (4)The Director of Collegiate Education, Thiruvananthapuram
- (5) Convenor, SC on SAC
- (6) PS to VC/PA to Registrar, SF/DF/FC

Forwarded / By Order

 Section Officer



UNIVERSITY OF CALICUT

Abstract

General and Academic Branch - Private Aided Colleges affiliated to the University - Establishment - Approval to the promotion of Dr. Sreejith.C, Assistant Professor, Department of Geology, MES Ponnani College, Ponnani, from Assistant Professor Stage 1, in the pay band of ₹15,600- 39,100/- with Academic Grade Pay of ₹6,000/- to Assistant Professor Stage 2 in the pay band of ₹15,600- 39,100/- with Academic Grade Pay of ₹7,000/-, with effect from 10.04.2015 F.N. under Career Advancement Scheme - Fixation of pay consequent to promotion - Resolution of the meeting of the Standing Committee on Staff of Affiliated Colleges held on 02.03.2020, as per Item No.68 - Implemented - Orders issued.

G&A-II-Special Cell-II

U.O.No. 4292/2020/Admn

Dated, Calicut University.P.O, 06.05.2020

Read:-1.Letter No.Nil dated 30.03.2019 & Letter No.E1/Estt/Placement/11/2019 -03 dated 18.11.2019.

2.Notification No.3696/GA-I-F1/2013/CU dated 26.02.2014.

3.University Order No.GA II/A3/2192H/2011 dated 14.06.2012.

4.UGC Public Notice No F.No.2-16/2002(PS)Pt FI II dated 16.10.2018.

5.Minutes of the meeting of the Screening cum Evaluation Committee held on 24.11.2018.

6.Item No.68 of the minutes of the meeting of the Standing Committee on Staff of Affiliated Colleges held on 02.03.2020.

7.University Order No.11150/2017/Admn dated 02.09.2017.

ORDER

As per the paper read (1), the Principal, MES Ponnani College, Ponnani, forwarded the proposal for granting approval to the promotion of Dr. Sreejith.C, Assistant Professor, Department of Geology from Assistant Professor Stage 1 in the pay band of ₹ 15,600-39,100/- with Academic Grade Pay of ₹ 6,000/- to Assistant Professor Stage 2 in the pay band of ₹15,600-39,100/- with Academic Grade Pay of ₹ 7,000/-, with effect from 10.04.2015 F.N. (i.e, the date of award of Ph.D. Degree) under Career Advancement Scheme and fixation of pay consequent to promotion.

2. As per the Amended Regulations 2014, notified vide paper read as (2), Assistant Professor in Stage 1 and completed four years of service with Ph.D. or five years of service who are with M.Phil./P.G. Degree in Professional Courses such as LL.M, M.Tech, MV.Sc., M.D., or six years of service who are without Ph.D./M.Phil./P.G.Degree in Professional Courses is eligible for promotion as Assistant Professor Stage 2, through a Screening cum Evaluation process, if they fulfill the minimum academic performance requirements and other conditions for promotion.

3. As per the paper read (3), the University of Calicut approved the appointment of Dr. Sreejith.C as Assistant Professor in the Department of Geology at MES Ponnani College, Ponnani, with effect from 21.02.2011 F.N. He is a Ph.D Degree holder (10.04.2015, University of Kerala) and has completed his regular service required for promotion as Assistant Professor Stage 1 on 09.04.2015 A.N. He has participated in one UGC sponsored Orientation Programme conducted by the UGC - Academic Staff College, University of Kerala (from 14.10.2014 to 10.11.2014) and in one Refresher Course (from 11.12.2015 to 24.12.2015) conducted by Indian Academy of Sciences, Bangalore (IASc), Indian National Science Academy, New Delhi (INSA) & The National Academy of Sciences, India, Allahabad (NASI). As per the paper read (4), the UGC has extended the date for participation in Orientation/Refresher Courses in respect of teachers for the purpose of the promotion under Career Advancement Scheme upto 31.12.2018.

4. As per the paper read (5), the duly constituted Screening cum Evaluation Committee, at its meeting held on 24.11.2018, verified the PBAS records and supporting documents of Dr. Sreejith.C and found that the teacher has sufficient API scores in each category- I,II & III, and is qualified for promotion to the post of Assistant Professor Stage 2 (AGP - ₹7,000/-) with effect from 10.04.2015 F.N.(i.e, the date of award of Ph.D. Degree). On the basis of the recommendation of the Screening cum Evaluation Committee, the Correspondent & Chairman, Standing Committee on MES Colleges, Calicut, has promoted Dr. Sreejith.C as Assistant Professor Stage 2 (AGP- ₹7,000/-) with effect from 10.04.2015 F.N. Considering the matter, the Vice Chancellor ordered to place the proposal for approval of the promotion of Dr. Sreejith.C before the Standing Committee of the Syndicate on Staff of Affiliated Colleges.

5. As per the paper read (6), the Standing Committee of the Syndicate on Staff of Affiliated Colleges, at its meeting held on 02.03.2020, resolved to approve the promotion granted to Dr. Sreejith.C, Assistant Professor, Department of Geology, MES Ponnani College, Ponnani, from Assistant Professor Stage 1, in the pay band of ₹15,600-39,100/- with Academic Grade Pay of ₹ 6,000/- to Assistant Professor Stage 2 in the pay band of ₹ 15,600-39,100/- with Academic Grade Pay of ₹ 7,000/- with effect from 10.04.2015 F.N., under

Career Advancement Scheme and fixation of pay consequent to promotion.

6. As per the paper read (7), the powers to grant approval to the promotion of teachers in Private Affiliated Colleges is delegated to the Vice Chancellor, if it is recommended by the Standing Committee of the Syndicate on Staff of Affiliated Colleges.

7. In the light of the above facts, sanction has been accorded by the Vice Chancellor for implementing the aforesaid resolution of the Standing Committee on Staff of Affiliated Colleges, granting approval to the promotion of Dr. Sreejith.C, as given below:

Name of the teacher & Department	Stage to which promoted	Date of effect	Courses attended	Basic pay before the date of promotion & pay band	Basic pay fixed on the date of promotion & pay band i.e, as on 10.04.2015 F.N.	Basic pay fixed on the date of option & pay band . ie.with effect from 01.07.2015	Date of next increment	Remarks
1	2	3	4	5	6	7	8	9
Dr.Sreejith.C, Assistant Professor, Department of Geology, MES Ponnani College, Ponnani	Assistant Professor Stage 2	10.04.2015 F.N.	UGC sponsored Orientation Programme (from 14.10.2014 to 10.11.2014) conducted by UGC-Academic Staff College, University of Kerala & Refresher Course (from 11.12.2015 to 24.12.2015), conducted by Indian Academy of Sciences, Bangalore (IASc), Indian National Science Academy, New Delhi (INSA) & The National Academy of Sciences, India Allahabad, (NASI)	₹ 19,740/- + AGP ₹ 6,000/- in the pay band of ₹ 15,600-39,100/- with Academic Grade Pay of ₹ 6,000/-	₹ 19,740/- + AGP ₹ 7,000/- in the pay band of ₹ 15,600-39,100/- with Academic Grade Pay of ₹ 7,000/-	₹ 21,320/- + AGP ₹ 7,000/- in the pay band of ₹ 15,600-39,100/- with Academic Grade Pay of ₹ 7,000/-	01.07.2016	Dr.Sreejith.C has opted to have the fixation of his pay on the date of increment, i.e, as on 01.07.2015 as per provisions in G.O.(P) No.58/2010/H.Edn dated 27.03.2010 & G.O.(P) No.234/2012/H.Edn dated 28.06.2012.

8. The resolution as per Item No.68 of the minutes of the meeting of the Standing Committee on Staff of Affiliated Colleges held on 02.03.2020, is therefore implemented.

Muhammed Basheer P
Assistant Registrar

To
The Principal, MES Ponnani College, Ponnani

Copy to:-

- (1) The Individual concerned (through the Principal)
- (2) The Educational Agency (through the Principal)
- (3) The Deputy Director of Collegiate Education, Calicut
- (4) The Director of Collegiate Education, Thiruvananthapuram
- (5) Convenor, SC on SAC
- (6) PS to VC/PA to Registrar, SF/DF/FC

Forwarded / By Order
Nisha
Section Officer



UNIVERSITY OF CALICUT

Abstract

General and Academic Branch - Private Aided Colleges Affiliated to the University - Establishment - Approval to the promotion of Dr. Arun Kumar.K.S, Department of Geology, MES Ponnani College, Ponnani, from Assistant Professor Stage 1 in the pay band of ₹15,600-39,100/- with Academic Grade Pay of ₹ 6,000/- to Assistant Professor Stage 2 in the pay band of ₹15,600-39,100/- with Academic Grade Pay of ₹ 7,000/- with effect from 01.01.2017 F.N., under Career Advancement Scheme - Fixation of pay consequent to promotion - Resolution of the meeting of the Standing Committee on Staff of Affiliated Colleges held on 02.03.2020, as per Item No.83 - Implemented - Orders issued.

G&A-II-Special Cell-II

U.O.No. 4293/2020/Admn

Dated, Calicut University.P.O, 06.05.2020

Read:-1.Letter No.Nil dated 30.03.2019 & Letter No.E1/Estt/Placement/11/2019-05 dated 18.11.2019.

2.Notification No.3696/GA-I-F1/2013/CU dated 26.02.2014 & Notification No.15599/GA-II-F-SO/2013/CU dated 20.02.2017 published in the Gazette dated 04.04.2017.

3.University Order No.6751/2013/CU dated 17.12.2013.

4.UGC Public Notice No F.No.2-16/2002(PS)Pt FI II dated 16.10.2018.

5.Minutes of the meeting of the Screening cum Evaluation Committee held on 24.11.2018.

6.Item No.83 of the minutes of the meeting of the Standing Committee on Staff of Affiliated Colleges held on 02.03.2020.

7.University Order No.11150/2017/Admn dated 02.09.2017.

ORDER

As per the paper read (1), the Principal, MES Ponnani College, Ponnani, forwarded the proposal for granting approval to the promotion of Dr. Arun Kumar.K.S, Assistant Professor, Department of Geology, from Assistant Professor Stage 1, in the pay band of ₹15,600-39,100/- with Academic Grade Pay of ₹6,000/- to Assistant Professor Stage 2 in the pay band of ₹15,600-39,100/- with Academic Grade Pay of ₹7,000/-, with effect from 01.01.2017 F.N., under Career Advancement Scheme and fixation of pay consequent to promotion.

2. As per the Amended Regulations 2014 & subsequent Amendments, notified vide paper read as (2), Assistant Professor in Stage 1 and completed four years of service with Ph.D. or five years of service who are with M.Phil./P.G. Degree in Professional Courses such as LL.M, M.Tech, MV.Sc., M.D., or six years of service who are without Ph.D./M.Phil./P.G.Degree in Professional Courses is eligible for promotion as Assistant Professor Stage 2, through a Screening cum Evaluation process, if they fulfill the minimum academic performance requirements and other conditions for promotion.

3. As per the paper read (3), the University of Calicut approved the appointment of Dr. Arun Kumar.K.S as Assistant Professor in the Department of Geology at MES Ponnani College, Ponnani, with effect from 01.01.2013 F.N. He is a Ph.D Degree holder (29.05.2008, University of Kerala) and has completed four years of regular service as Assistant Professor Stage 1 on 31.12.2016 A.N. He has participated in one UGC sponsored Orientation Programme (from 04.11.2016 to 01.12.2016) and in one Refresher Course (from 09.01.2018 to 29.01.2018), both conducted by the UGC- Human Resource Development Centre, University of Kerala. As per the paper read (4), the UGC has extended the date for participation in Orientation/Refresher Courses in respect of teachers for the purpose of the promotion under Career Advancement Scheme upto 31.12.2018.

4. As per the paper read (5), the duly constituted Screening cum Evaluation Committee, at its meeting held on 24.11.2018, verified the PBAS records and supporting documents of Dr. Arun Kumar.K.S and found that the teacher has sufficient API scores in each category- I,II & III, and is qualified for promotion to the post of Assistant Professor Stage 2 (AGP - 7,000/-) with effect from 01.01.2017 F.N. On the basis of the recommendation of the Screening cum Evaluation Committee, the Correspondent & Chairman, Standing Committee on MES Colleges, Calicut, has promoted Dr. Arun Kumar.K.S as Assistant Professor Stage 2 with effect from 01.01.2017 F.N. Considering the matter, the Vice Chancellor ordered to place the proposal for approval of the promotion of Dr. Arun Kumar.K.S before the Standing Committee on Staff of Affiliated

Colleges.

5. As per the paper read (6), the Standing Committee on Staff of Affiliated Colleges, at its meeting held on 02.03.2020, resolved to approve the promotion granted to Dr. Arun Kumar.K.S, Assistant Professor, Department of Geology at MES Ponnani College, Ponnani, from Assistant Professor Stage 1, in the pay band of ₹15,600-39,100/- with Academic Grade Pay of ₹ 6,000/- to Assistant Professor Stage 2 in the pay band of ₹15,600-39,100/- with Academic Grade Pay of ₹7,000/- with effect from 01.01.2017 F.N., under Career Advancement Scheme and fixation of pay consequent to promotion.

6. As per the paper read (7), the powers to grant approval to the promotion of teachers in Private Affiliated Colleges is delegated to the Vice Chancellor, if it is recommended by the Standing Committee of the Syndicate on Staff of Affiliated Colleges.

7. In the light of the above facts, sanction has been accorded by the Vice Chancellor for implementing the aforesaid resolution of the Standing Committee on Staff of Affiliated Colleges, granting approval to the promotion of Dr. Arun Kumar.K.S, as given below:

Name of the teacher & Department	Stage to which promoted	Date of effect	Courses attended	Basic pay before promotion & pay band	Basic pay fixed after promotion & pay band with effect from 01.01.2017 F.N.	Date of next increment	Remarks
1	2	3	4	5	6	7	8
Dr. Arun Kumar.K.S, Assistant Professor, Department of Geology, MES Ponnani College, Ponnani	Assistant Professor Stage 2	01.01.2017 F.N.	UGC sponsored Orientation Programme (from 04.11.2016 to 01.12.2016) & UGC sponsored Refresher Course (from 09.01.2018 to 29.01.2018), both conducted by HRDC, University of Kerala	₹ 21,980/- + AGP ₹ 6,000/- in the pay band of ₹ 15,600-39,100/- with Academic Grade Pay of ₹ 6,000/-	₹ 22,820/- + AGP ₹ 7,000/- in the pay band of ₹ 15,600-39,100/- with Academic Grade Pay of ₹ 7,000/-	01.07.2017	Dr. Arun Kumar.K.S has opted to have the fixation of his pay on the date of promotion, i.e, as on 01.01.2017 F.N. as per provisions in G.O.(P) No.58/2010/H.Edn dated 27.03.2010 & G.O.(P) No.234/2012/H.Edn dated 28.06.2012.

8. The resolution as per Item No.83 of the minutes of the meeting of the Standing Committee on Staff of Affiliated Colleges held on 02.03.2020, is therefore implemented.

Muhammed Basheer P
Assistant Registrar

To
The Principal, MES Ponnani College, Ponnani

Copy to:-

- (1) The Individual concerned (through the Principal)
- (2) The Educational Agency (through the Principal)
- (3) The Deputy Director of Collegiate Education, Calicut
- (4) The Director of Collegiate Education, Thiruvananthapuram
- (5) Convenor, SC on SAC
- (6) PS to VC/PA to Registrar, SF/DF/FC

Forwarded / By Order

Section Officer



UNIVERSITY OF CALICUT

Abstract

General and Academic Branch - Private Aided Colleges Affiliated to the University - Establishment - Approval to the promotion of Dr. Santhosh.V, Assistant Professor, Department of Geology, MES Ponnani College, Ponnani, from Assistant Professor Stage 1, in the pay band of ₹15,600- 39,100/- with Academic Grade Pay of ₹6,000/- to Assistant Professor Stage 2 in the pay band of ₹15,600- 39,100/- with Academic Grade Pay of ₹7,000/-, with effect from 24.02.2015 F.N, under Career Advancement Scheme - Fixation of pay consequent to promotion - Resolution of the meeting of the Standing Committee on Staff of Affiliated Colleges held on 02.03.2020, as per Item No.82 - Implemented - Orders issued.

G&A-II-Special Cell-II

U.O.No. 4294/2020/Admn

Dated, Calicut University.P.O, 06.05.2020

- Read:-**1.Letter No.Nil dated 30.03.2019 & Letter No.E1/Est/Placement/11/2019 -02 dated 18.11.2019.
2.Notification No.3696/GA-I-F1/2013/CU dated 26.02.2014.
3.University Order No.GAI/A3/2192H/2011 dated 26.11.2012.
4.UGC Public Notice No F.No.2-16/2002(PS)Pt FI II dated 16.10.2018.
5.Minutes of the meeting of the Screening cum Evaluation Committee held on 24.11.2018.
6.Item No.82 of the minutes of the meeting of the Standing Committee on Staff of Affiliated Colleges held on 02.03.2020.
7.University Order No.11150/2017/Admn dated 02.09.2017.

ORDER

As per the paper read (1), the Principal, MES Ponnani College, Ponnani, forwarded the proposal for granting approval to the promotion of Dr. Santhosh.V, Assistant Professor, Department of Geology from Assistant Professor Stage 1 in the pay band of ₹ 15,600-39,100/- with Academic Grade Pay of ₹ 6,000/- to Assistant Professor Stage 2 in the pay band of ₹15,600-39,100/- with Academic Grade Pay of ₹ 7,000/-, with effect from 24.02.2015 F.N. under Career Advancement Scheme and fixation of pay consequent to promotion.

2. As per the Amended Regulations 2014, notified vide paper read as (2), Assistant Professor in Stage 1 and completed four years of service with Ph.D. or five years of service who are with M.Phil./P.G. Degree in Professional Courses such as LL.M, M.Tech, MV.Sc., M.D., or six years of service who are without Ph.D./M.Phil./P.G.Degree in Professional Courses is eligible for promotion as Assistant Professor Stage 2, through a Screening cum Evaluation process, if they fulfill the minimum academic performance requirements and other conditions for promotion.

3. As per the paper read (3), University of Calicut approved the appointment of Dr. Santhosh.V as Assistant Professor in the Department of Geology at MES Ponnani College, Ponnani, with effect from 24.02.2011 F.N. He is a Ph.D. Degree holder (26.07.2007, University of Kerala) and has completed four years of regular service as Assistant Professor Stage 1 on 23.02.2015 A.N. He has participated in one UGC sponsored Orientation Programme (from 16.01.2014 to 05.02.2014) and in one Refresher Course (from 30.01.2015 to 26.02.2015), both conducted by the UGC - Academic Staff College, University of Kerala. As per the paper read (4), the UGC has extended the date for participation in Orientation/Refresher Courses in respect of teachers for the purpose of the promotion under Career Advancement Scheme upto 31.12.2018.

4. As per the paper read (5), the duly constituted Screening cum Evaluation Committee, at its meeting held on 24.11.2018, verified the PBAS records and supporting documents of Dr. Santhosh.V and found that the teacher has sufficient API scores in each category- I,II & III, and is qualified for promotion to the post of Assistant Professor Stage 2 (AGP - 7,000/-) with effect from 24.02.2015 F.N. On the basis of the recommendation of the Screening cum Evaluation Committee, the Correspondent & Chairman, Standing Committee on MES Colleges, Calicut, has promoted Dr. Santhosh.V as Assistant Professor Stage 2 (AGP- ₹ 7,000/-) with effect from 24.02.2015 F.N. Considering the matter, the Vice Chancellor ordered to place the proposal for approval of the promotion of Dr. Santhosh.V before the Standing Committee on Staff of Affiliated Colleges.

5. As per the paper read (6), the Standing Committee on Staff of Affiliated Colleges, at its meeting held on

02.03.2020 resolved to approve the promotion granted to Dr. Santhosh.V, Assistant Professor, Department of Geology, MES Ponnani College, Ponnani, from Assistant Professor Stage 1, in the pay band of ₹15,600-39,100/- with Academic Grade Pay of ₹ 6,000/- to Assistant Professor Stage 2 in the pay band of ₹ 15,600-39,100/- with Academic Grade Pay of ₹ 7,000/- with effect from 24.02.2015 F.N., under Career Advancement Scheme and fixation of pay consequent to promotion.

6. As per the paper read (7), the powers to grant approval to the promotion of teachers in Private Affiliated Colleges is delegated to the Vice Chancellor, if it is recommended by the Standing Committee of the Syndicate on Staff of Affiliated Colleges.

7. In the light of the above facts, sanction has been accorded by the Vice Chancellor for implementing the aforesaid resolution of the Standing Committee on Staff of Affiliated Colleges, granting approval to the promotion of Dr. Santhosh.V, as given below:

Name of the teacher & Department	Stage to which promoted	Date of effect	Courses attended	Basic pay before the date of promotion & pay band	Basic pay fixed on the date of promotion & pay band i.e. as on 24.02.2015 F.N.	Basic pay fixed after the date of promotion & pay band with effect from 01.07.2015	Date of next increment	Remarks
1	2	3	4	5	6	7	8	9
Dr. Santhosh.V, Assistant Professor, Department of Geology, MES Ponnani College, Ponnani	Assistant Professor Stage 2	24.02.2015 F.N.	UGC sponsored Orientation Programme (from 16.01.2014 to 05.02.2014) & Refresher Course (from 30.01.2015 to 26.02.2015), both conducted by UGC-Academic Staff college, University of Kerala.	₹ 21,160/- + AGP ₹ 6,000/- in the pay band of ₹ 15,600-39,100/- with Academic Grade Pay of ₹ 6,000/-	₹ 21,160/- + AGP ₹ 7,000/- in the pay band of ₹ 15,600-39,100/- with Academic Grade Pay of ₹ 7,000/-	₹ 22,820/- + AGP ₹ 7,000/- in the pay band of ₹ 15,600-39,100/- with Academic Grade Pay of ₹ 7,000/-	01.07.2016	Dr. Santhosh.V has opted to have the fixation of his pay on the date of increment, i.e. as on 01.07.2015 as per provisions in G.O.(P) No.58/2010/H.Edn dated 27.03.2010 & G.O.(P) No.234/2012/H.Edn dated 28.06.2012.

8. The resolution as per Item No.82 of the minutes of the meeting of the Standing Committee on Staff of Affiliated Colleges held on 02.03.2020, is therefore implemented.

Muhammed Basheer P

Assistant Registrar

To

The Principal, MES Ponnani College, Ponnani

Copy to:-

- (1) The Individual concerned (through the Principal)
- (2) The Educational Agency (through the Principal)
- (3) The Deputy Director of Collegiate Education, Calicut
- (4) The Director of Collegiate Education, Thiruvananthapuram
- (5) Convenor, SC on SAC
- (6) PS to VC/PA to Registrar, SF/DF/FC

Forwarded / By Order
Section Officer



UNIVERSITY OF CALICUT

Abstract

General and Academic Branch - Private Aided Colleges Affiliated to the University - Establishment - Approval to the promotion of Sri. Abdul Nafih.P.K, Department of Geology, MES Ponnani College, Ponnani, from Assistant Professor Stage 1 in the pay band of ₹15,600-39,100/- with Academic Grade Pay of ₹ 6,000/- to Assistant Professor Stage 2 in the pay band of ₹15,600-39,100/- with Academic Grade Pay of ₹ 7,000/- with effect from 01.03.2017 F.N., under Career Advancement Scheme - Fixation of pay consequent to promotion - Resolution of the meeting of the Standing Committee on Staff of Affiliated Colleges held on 02.03.2020, as per Item No.99 - Implemented - Orders issued.

G&A-II-Special Cell-II

U.O.No. 4295/2020/Admn

Dated, Calicut University.P.O, 06.05.2020

Read:-1.Letter No.Nil dated 30.03.2019 & Letter No.E1/Estt/Placement/11/2019-04 dated 18.11.2019.

2.Notification No.3696/GA-I-F1/2013/CU dated 26.02.2014 & Notification No.15599/GA-II-F-SO/2013/CU dated 20.02.2017 published in the Gazette dated 04.04.2017.

3.University Order No.GA II/A3/2192H/2011 dated 26.11.2012.

4.Minutes of the meeting of the Screening cum Evaluation Committee held on 24.11.2018.

5.Item No.99 of the minutes of the meeting of the Standing Committee on Staff of Affiliated Colleges held on 02.03.2020.

6.University Order No.11150/2017/Admn dated 02.09.2017.

ORDER

As per the paper read (1), the Principal, MES Ponnani College, Ponnani, forwarded the proposal for granting approval to the promotion of Sri. Abdul Nafih.P.K, Assistant Professor, Department of Geology, from Assistant Professor Stage 1, in the pay band of ₹15,600-39,100/- with Academic Grade Pay of ₹6,000/- to Assistant Professor Stage 2 in the pay band of ₹15,600-39,100/- with Academic Grade Pay of ₹7,000/-, with effect from 01.03.2017 F.N., under Career Advancement Scheme and fixation of pay consequent to promotion.

2. As per the Amended Regulations 2014 & subsequent Amendments notified vide paper read as (2), Assistant Professor in Stage 1 and completed four years of service with Ph.D. or five years of service who are with M.Phil./P.G. Degree in Professional Courses such as LL.M, M.Tech, MV.Sc., M.D., or six years of service who are without Ph.D./M.Phil./P.G.Degree in Professional Courses is eligible for promotion as Assistant Professor Stage 2, through a Screening cum Evaluation process, if they fulfill the minimum academic performance requirements and other conditions for promotion.

3. As per the paper read (3), the University of Calicut approved the appointment of Sri. Abdul Nafih.P.K as Assistant Professor in the Department of Geology at MES Ponnani College, Ponnani, with effect from 01.03.2011 F.N. He has completed six years of regular service as Assistant Professor Stage 1 on 28.02.2017 A.N. He has participated in one UGC sponsored Orientation Programme (from 04.05.2011 to 31.05.2011), conducted by the UGC-Academic Staff College, University of Calicut and in one Refresher Course (from 09.11.2016 to 29.11.2016), conducted by the UGC- Human Resource Development Centre, University of Calicut.

4. As per the paper read (4), the duly constituted Screening cum Evaluation Committee, at its meeting held on 24.11.2018, verified the PBAS records and supporting documents of Sri. Abdul Nafih.P.K and found that the teacher has sufficient API scores in each category- I,II & III, and is qualified for promotion to the post of Assistant Professor Stage 2 (AGP- ₹7,000/-) with effect from 01.03.2017 F.N. On the basis of the recommendation of the Screening cum Evaluation Committee, the Correspondent & Chairman, Standing Committee on MES Colleges, Calicut, has promoted Sri. Abdul Nafih.P.K as Assistant Professor Stage 2 with effect from 01.03.2017 F.N. Considering the matter, the Vice Chancellor ordered to place the proposal for approval of the promotion of Sri. Abdul Nafih.P.K before the Standing Committee on Staff of Affiliated Colleges.

5. As per the paper read (5), the Standing Committee on Staff of Affiliated Colleges, at its meeting held on 02.03.2020, resolved to approve the promotion granted to Sri. Abdul Nafih.P.K, Assistant Professor, Department of Geology at MES Ponnani College, Ponnani, from Assistant Professor Stage 1, in the pay band of ₹15,600-39,100/- with Academic Grade Pay of ₹ 6,000/- to Assistant Professor Stage 2 in the pay band of ₹15,600-39,100/- with Academic Grade Pay of ₹7,000/- with effect from 01.03.2017 F.N.,

under Career Advancement Scheme and fixation of pay consequent to promotion.

6. As per the paper read (6), the powers to grant approval to the promotion of teachers in Private Affiliated Colleges is delegated to the Vice Chancellor, if it is recommended by the Standing Committee of the Syndicate on Staff of Affiliated Colleges.

7. In the light of the above facts, sanction has been accorded by the Vice Chancellor for implementing the aforesaid resolution of the Standing Committee on Staff of Affiliated Colleges, granting approval to the promotion of Sri. Abdul Nafih.P.K, as given below:

Name of the teacher & Department	Stage to which promoted	Date of effect	Courses attended	Basic pay before promotion & pay band	Basic pay fixed on the date of promotion & pay band i.e. as on 01.03.2017 F.N.	Basic pay fixed after promotion & pay band with effect from 01.07.2017	Date of next increment	Remarks
1	2	3	4	5	6	7	8	9
Sri.Abdul Nafih.P.K, Assistant Professor, Department of Geology, MES Ponnani College, Ponnani	Assistant Professor Stage 2	01.03.2017 F.N.	UGC sponsored Orientation Programme (from 04.05.2011 to 31.05.2011) conducted by UGC-Academic Staff College, University of Calicut & Refresher Course (from 09.11.2016 to 29.11.2016), conducted by UGC-HRDC, University of Calicut	₹ 19,050/- + AGP ₹ 6,000/- in the pay band of ₹ 15,600-39,100/- with Academic Grade Pay of ₹ 6,000/-	₹ 19,050/- + AGP ₹ 7,000/- in the pay band of ₹ 15,600-39,100/- with Academic Grade Pay of ₹ 7,000/-	₹ 20,590/- + AGP ₹7,000/-in the pay band of ₹ 15,600-39,100/- with Academic Grade Pay of ₹ 7,000/-	01.07.2018	Sri.Abdul Nafih.P.K has opted to have the fixation on the date of increment, i.e. as on 01.07.2017 as per provisions in G.O.(P) No.58/2010/H.Edn dated 27.03.2010 & G.O.(P) No.234/2012/H.Edn dated 28.06.2012.

8. The resolution as per Item No.99 of the minutes of the meeting of the Standing Committee on Staff of Affiliated Colleges held on 02.03.2020, is therefore implemented.

Muhammed Basheer P

Assistant Registrar

To

The Principal, MES Ponnani College, Ponnani

Copy to:-

- (1)The Individual concerned (through the Principal)
- (2)The Educational Agency (through the Principal)
- (3)The Deputy Director of Collegiate Education, Calicut
- (4)The Director of Collegiate Education, Thiruvananthapuram
- (5) Convenor, SC on SAC
- (6) PS to VC/PA to Registrar, SF/DF/FC

Forwarded / By Order

Section Officer



UNIVERSITY OF CALICUT

Abstract

General and Academic Branch - Private Aided Colleges Affiliated to the University - Establishment - Approval to the promotion of Dr. Brijesh.V.K, Assistant Professor, Department of Geology, MES Ponnani College, Ponnani, from Assistant Professor Stage 1, in the pay band of ₹15,600- 39,100/- with Academic Grade Pay of ₹6,000/- to Assistant Professor Stage 2 in the pay band of ₹15,600- 39,100/- with Academic Grade Pay of ₹7,000/-, with effect from 13.03.2013 F.N, under Career Advancement Scheme - Fixation of pay consequent to promotion - Resolution of the meeting of the Standing Committee on Staff of Affiliated Colleges held on 02.03.2020, as per Item No.84 - Implemented - Orders issued.

G&A-II-Special Cell-II

U.O.No. 4296/2020/Admn

Dated, Calicut University.P.O, 06.05.2020

- Read:-**1.Letter No.Nil dated 08.05.2019 & Letter No.E1/Estt/Placement/11/2019-01 dated 18.11.2019.
2.Notification No.3696/GA-I-F1/2013/CU dated 26.02.2014.
3.University Order No.GA-II/A3/1526/2009 dated 26.10.2009.
4.G.O.(P) No. 58/2010/H.Edn. dated 27.03.2010.
5.UGC Public Notice No F.No.2-16/2002(PS)Pt FI II dated 16.10.2018.
6.Minutes of the meeting of the Screening cum Evaluation Committee held on 24.11.2018.
7.Item No.84 of the minutes of the meeting of the Standing Committee on Staff of Affiliated Colleges held on 02.03.2020.
8.University Order No.11150/2017/Admn dated 02.09.2017.

ORDER

As per the paper read (1), the Principal, MES Ponnani College, Ponnani, forwarded the proposal for granting approval to the promotion of Dr. Brijesh.V.K, Assistant Professor, Department of Geology from Assistant Professor Stage 1 in the pay band of ₹ 15,600-39,100/- with Academic Grade Pay of ₹ 6,000/- to Assistant Professor Stage 2 in the pay band of ₹15,600-39,100/- with Academic Grade Pay of ₹ 7,000/-, with effect from 13.03.2013 F.N. under Career Advancement Scheme and fixation of pay consequent to promotion.

2. As per the Amended Regulations 2014, notified vide paper read as (2), Assistant Professor in Stage 1 and completed four years of service with Ph.D. or five years of service who are with M.Phil./P.G. Degree in Professional Courses such as LL.M, M.Tech, MV.Sc., M.D., or six years of service who are without Ph.D./M.Phil./P.G.Degree in Professional Courses is eligible for promotion as Assistant Professor Stage 2, through a Screening cum Evaluation process, if they fulfill the minimum academic performance requirements and other conditions for promotion.

3. As per the paper read (3), the University of Calicut approved the appointment of Dr. Brijesh.V.K as Lecturer in the Department of Geology at MES Ponnani College, Ponnani, with effect from 13.03.2009 F.N. In accordance with the provisions in the Government Order read as (4), the Deputy Director of Collegiate Education, Kozhikode, had re-designated the post of the incumbent as Assistant Professor with effect from 13.03.2009. He is a Ph.D. Degree holder (Date of Convocation: 09.02.2008, University of Mysore) and has completed four years of regular service as Assistant Professor Stage 1 on 12.03.2013 A.N. He has participated in one UGC sponsored Orientation Programme (from 04.05.2011 to 31.05.2011) and in one Refresher Course (from 17.04.2013 to 07.05.2013), both conducted by the UGC - Academic Staff College, University of Calicut. As per the paper read (5), the UGC has extended the date for participation in Orientation/Refresher Courses in respect of teachers for the purpose of the promotion under Career Advancement Scheme upto 31.12.2018.

4. As per the paper read (6), the duly constituted Screening cum Evaluation Committee, at its meeting held on 24.11.2018, verified the PBAS records and supporting documents of Dr. Brijesh.V.K and found that the teacher has sufficient API scores in each category- I, II & III, and is qualified for promotion to the post of Assistant Professor Stage 2 (AGP - 7,000/-) with effect from 13.03.2013 F.N. On the basis of the recommendation of the Screening cum Evaluation Committee, the Correspondent & Chairman, Standing Committee on MES Colleges, Calicut, has promoted Dr. Brijesh.V.K as Assistant Professor Stage 2 (AGP- ₹ 7,000/-) with effect from 13.03.2013 F.N. Considering the matter, the Vice Chancellor ordered to place the proposal for approval of the promotion of Dr. Brijesh.V.K before the Standing Committee on Staff of Affiliated Colleges.

5. As per the paper read (7), the Standing Committee on Staff of Affiliated Colleges, at its meeting held on 02.03.2020 resolved to approve the promotion granted to Dr. Brijesh.V.K, Assistant Professor, Department of Geology, MES Ponnani College, Ponnani, from Assistant Professor Stage 1, in the pay band of ₹15,600-

39,100/- with Academic Grade Pay of ₹ 6,000/- to Assistant Professor Stage 2 in the pay band of ₹ 15,600-39,100/- with Academic Grade Pay of ₹ 7,000/- with effect from 13.03.2013 F.N., under Career Advancement Scheme and fixation of pay consequent to promotion.

6. As per the paper read (8), the powers to grant approval to the promotion of teachers in Private Affiliated Colleges is delegated to the Vice Chancellor, if it is recommended by the Standing Committee of the Syndicate on Staff of Affiliated Colleges.

7. In the light of the above facts, sanction has been accorded by the Vice Chancellor for implementing the aforesaid resolution of the Standing Committee on Staff of Affiliated Colleges, granting approval to the promotion of Dr. Brijesh.V.K, as given below:

Name of the teacher & Department	Stage to which promoted	Date of effect	Courses attended	Basic pay before the date of promotion & pay band	Basic pay fixed on the date of promotion & pay band i.e, as on 13.03.2013 F.N.	Basic pay fixed after the date of promotion & pay band with effect from 01.07.2013	Date of next increment	Remarks
1	2	3	4	5	6	7	8	9
Dr.Brijesh.V.K, Assistant Professor, Department of Geology, MES Ponnani College, Ponnani	Assistant Professor Stage 2	13.03.2013 F.N.	UGC sponsored Orientation Programme (from 04.05.2011 to 31.05.2011) & Refresher Course (from 17.04.2013 to 07.05.2013), both conducted by UGC-Academic Staff College, University of Calicut	₹ 21,160/- + AGP ₹ 6,000/- in the pay band of ₹ 15,600-39,100/- with Academic Grade Pay of ₹ 6,000/-	₹ 21,160/- + AGP ₹ 7,000/- in the pay band of ₹ 15,600-39,100/- with Academic Grade Pay of ₹ 7,000/-	₹ 22,820/- + AGP ₹ 7,000/- in the pay band of ₹ 15,600-39,100/- with Academic Grade Pay of ₹ 7,000/-	01.07.2014	Dr.Brijesh.V.K has opted to have the fixation of his pay on the date of increment, i.e, as on 01.07.2013 as per provisions in G.O.(P) No.58/2010/H.Edn dated 27.03.2010 & G.O.(P) No.234/2012/H.Edn dated 28.06.2012.

8. The resolution as per Item No.84 of the minutes of the meeting of the Standing Committee on Staff of Affiliated Colleges held on 02.03.2020, is therefore implemented.

Muhammed Basheer P

Assistant Registrar

To

The Principal, MES Ponnani College, Ponnani

Copy to:-

- (1)The Individual concerned (through the Principal)
- (2)The Educational Agency (through the Principal)
- (3)The Deputy Director of Collegiate Education,Calicut
- (4)The Director of Collegiate Education, Thiruvananthapuram
- (5) Convenor, SC on SAC
- (6) PS to VC/PA to Registrar, SF/DF/FC

Forwarded / By Order

Section Officer



UNIVERSITY OF CALICUT

Abstract

General and Academic Branch - Private Aided Colleges Affiliated to the University - Establishment - Approval to the promotion of Dr. Jayakrishnan.K, Assistant Professor, Department of Physics, MES Ponnani College, Ponnani, from Assistant Professor Stage 2, in the pay band of ₹15,600- 39,100/- with Academic Grade Pay of ₹ 7,000/- to Assistant Professor Stage 3 in the pay band of ₹15,600- 39,100/- with Academic Grade Pay of ₹ 8,000/-, with effect from 24.02.2016 F.N. under Career Advancement Scheme - Fixation of pay consequent to promotion - Resolution of the meeting of the Standing Committee on Staff of Affiliated Colleges held on 02.03.2020, as per Item No.39 - Implemented - Orders issued.

G&A-II-Special Cell-II

U.O.No. 4282/2020/Admn

Dated, Calicut University.P.O, 06.05.2020

- Read:-**
- 1.Letter No.E1/Estt/Placement/2019 dated 08.07.2019.
 - 2.Notification No.3696/GA-I-F1/2013/CU dated 26.02.2014.
 - 3.University Order No. GAII/A3/1040/2005 dated 09.12.2005.
 - 4.G.O.(P) No.58/2010/H.Edn dated 27.03.2010.
 - 5.University Order No.513/2018/Admn dated 11.01.2018.
 - 6.UGC Public Notice No F.No.2-16/2002(PS)Pt FI II dated 16.10.2018.
 - 7.Minutes of the meeting of the Screening cum Evaluation Committee held on 27.03.2019.
 - 8.Item No.39 of the minutes of the meeting of the Standing Committee on Staff of Affiliated Colleges held on 02.03.2020.
 - 9.University Order No.11150/2017/Admn dated 02.09.2017.

ORDER

As per the paper read (1), the Principal, MES Ponnani College, Ponnani, forwarded the proposal for granting approval to the promotion of Dr. Jayakrishnan.K, Assistant Professor, Department of Physics, from Assistant Professor Stage 2, in the pay band of ₹15,600-39,100/- with Academic Grade Pay of ₹ 7,000/- to Assistant Professor Stage 3 in the pay band of ₹15,600-39,100/- with Academic Grade Pay of ₹ 8,000/-, with effect from 24.02.2016 F.N., under Career Advancement Scheme and fixation of pay consequent to promotion.

2. As per the Amended Regulations of 2014, notified vide paper read as (2), Assistant Professor with completed service of five years in Stage 2 is eligible for promotion as Assistant Professor Stage 3, through a screening cum evaluation process, if they fulfill the minimum academic performance requirements and other conditions for promotion.

3. As per the paper read (3), the appointment of Dr. Jayakrishnan.K as Lecturer in the Department of Physics at MES Ponnani College, Ponnani, with effect from 24.02.2005 F.N. was approved by the University of Calicut. In accordance with the provisions in the Government Order read as (4), the Deputy Director of Collegiate Education, Kozhikode, had re-designated the post of the incumbent as Assistant Professor with effect from 01.01.2006. On completion of 6 years of service as Assistant Professor Stage 1, he was promoted as Assistant Professor Stage 2 (AGP- ₹ 7,000/-) with effect from 24.02.2011 F.N. which was approved by the University of Calicut as per the paper read (5). He has completed five years of service as Assistant Professor Stage 2 on 23.02.2016 A.N. He has participated in UGC Sponsored Refresher Course conducted by Human Resource Development Centre, Kannur University (from 01.03.2017 to 21.03.2017). As per the paper read (6), the UGC has extended the date for participation in Orientation/Refresher Courses in respect of teachers for the purpose of the promotion under Career Advancement Scheme upto 31.12.2018.

4. As per the paper read (7), the duly constituted Screening cum Evaluation Committee, at its meeting held on 27.03.2019, verified the PBAS records and supporting documents of Dr. Jayakrishnan.K and found that the teacher has sufficient API scores in each category- I,II & III, and is qualified for promotion to the post of Assistant Professor Stage 3 (AGP- ₹ 8,000/-) with effect from 24.02.2016 F.N. On the basis of the recommendation of the Committee, the Correspondent & Chairman, Standing Committee on MES Colleges, Calicut, has promoted Dr. Jayakrishnan.K as Assistant Professor Stage 3 (AGP- ₹ 8,000/-) with effect from 24.02.2016 F.N. Considering the matter, the Vice Chancellor ordered to place the proposal for approval of the promotion of Dr. Jayakrishnan.K before the Standing Committee on Staff of Affiliated Colleges.

5. As per the paper read (8), the Standing Committee of the Syndicate on Staff of Affiliated Colleges, at its meeting held on 02.03.2020 resolved to approve the promotion granted to Dr. Jayakrishnan.K, Assistant Professor, Department of Physics, MES Ponnani College, Ponnani, from Assistant Professor Stage 2, in the pay band of ₹15,600-39,100/- with Academic Grade Pay of ₹ 7,000/- to Assistant Professor Stage 3 in the pay band of ₹15,600-39,100/- with Academic Grade Pay of ₹ 8,000/- with effect from 24.02.2016 F.N., under Career Advancement Scheme and fixation of pay consequent to promotion.

6. As per the paper read (9), the powers to grant approval to the promotion of teachers in Private Affiliated Colleges is delegated to the Vice Chancellor, if it is recommended by the Standing Committee of the Syndicate on Staff of Affiliated Colleges.

7. In the light of the above facts, sanction has been accorded by the Vice Chancellor for implementing the aforesaid resolution of the Standing Committee on Staff of Affiliated Colleges, granting approval to the promotion of Dr. Jayakrishnan.K, as given below:

Name of the teacher & Department	Stage to which promoted	Date of effect	Courses attended	Basic pay before the date of promotion & pay band	Basic pay fixed on the date of promotion & pay band i.e, as on 24.02.2016 F.N.	Basic pay fixed after the date of promotion & pay band with effect from 01.07.2016	Date of next increment	Remarks
1	2	3	4	5	6	7	8	9
Dr.Jayakrishnan.K, Assistant Professor, Department of Physics, MES Ponnani College, Ponnani	Assistant Professor Stage 3	24.02.2016 F.N.	UGC sponsored Refresher Course conducted by HRDC, Kannur University (from 01.03.2017 to 21.03.2017)	₹ 24,070/- + AGP ₹ 7,000/- in the pay band of ₹ 15,600-39,100/- with Academic Grade Pay of ₹ 7,000/-	₹ 24,070/- + AGP ₹ 8,000/- in the pay band of ₹ 15,600-39,100/- with Academic Grade Pay of ₹ 8,000/-	₹ 25,970/- + AGP ₹ 8,000/- in the pay band of ₹ 15,600-39,100/- with Academic Grade Pay of ₹ 8,000/-	01.07.2017	Dr.Jayakrishnan.K has opted to have the fixation of his pay on the date of increment, i.e, as on 01.07.2016 as per provisions in G.O.(P) No.58/2010/H.Edn dated 27.03.2010 & G.O.(P) No.234/2012/H.Edn dated 28.06.2012.

8. The resolution as per Item No.39 of the minutes of the meeting of the Standing Committee on Staff of Affiliated Colleges held on 02.03.2020, is therefore implemented.

Muhammed Basheer P

Assistant Registrar

To

The Principal, MES Ponnani College, Ponnani

Copy to:-

- (1)The Individual concerned (through the Principal)
- (2)The Educational Agency (through the Principal)
- (3)The Deputy Director of Collegiate Education, Kozhikode
- (4)The Director of Collegiate Education, Thiruvananthapuram
- (5) Convenor, SC on SAC
- (6) PS to VC/PA to Registrar, SF/DF/FC

Forwarded / By Order

Section Officer



THE MUSLIM EDUCATIONAL SOCIETY, CALICUT
ACADEMIC & ADMINISTRATIVE AUDIT
FOR ARTS & SCIENCE COLLEGES

AAA PROFORMA FOR TEACHERS
(FORM No. 1)

ACADEMIC & ADMINISTRATIVE AUDIT FOR ARTS & SCIENCE COLLEGES

PROFORMA FOR TEACHERS –(FORM No. 1)

(Fill carefully in the given MS Word format. Add more columns if needed)

Academic year.....

1) Name: SABNA. M

2) Designation: ASSISTANT PROFESSOR

3) Department: PHYSICS

4) Qualifications: M.Sc., B.Ed

5) Details of Additional Qualifications achieved including SWAYAM, MOOC, NPTEL, NMEICT courses

Sl. No.	Programme	Awarded by	Grade Obtained	Date of degree/Award

6) Details of Classes Engaged including Practical

a) Odd Semester

Sl.No.	Classes engaged (Semester and programme)	Course name	Total Number of hours allotted	Total Number of hours engaged	Extra Hours taken, if any	Syllabus Completed or Not	Remarks
1.	1 SEMESTER PG	CLASSICAL MECHANICS	45	33	4	YES	
2.	V SEMESTER UG	OPTICS	54	54	4	YES	
3.	1 SEMESTER COMPLIMENTARY	PROPERTIES OF MATTER	18	18	3	YES	

4.	3 SEMESTER COMPLIMENTARY	OPTICS, LASER, ELECTRONICS AND COMMUNICATION	36	36	5	YES	
5.	3 SEM COMPLIMENTARY PRACTICAL	PHYSICS PRACTICAL	36	36	5	YES	
6.	5 SEM CORE PRACTICAL	PRACTICAL II AND III	36	36	NIL	YES	

b) Even Semester

Sl.No.	Classes engaged (Semester and programme)	Course name	Total Number of hours allotted	Total Number of hours engaged	Extra Hours taken, if any	Syllabus Completed or Not	Remarks
1.	2 SEM COMPLIMENTARY	OPTICS ELECTRONICS LASER AND COMMUNICATION	27	27	3	YES	
2.	2 SEM PG	COMPUTATIONAL PHYSICS	90	90	6	YES	
3.	4 SEM PG PRACTICAL	COMPUTATIONAL PHYSICS PRACTICAL	54	54	5	YES	
4.	6 SEM UG	COMPUTATIONAL PHYSICS	54	54	5	YES	

7) Bridge Course/Remedial Classes taken

Sl.No.	Class	Course	No. of Hours taken	Details of result improvement
1.	1 SEM B.SC. PHYSICS	MATHEMATICAL PRELIMINARIES	10	
2.	V SEM B.SC. PHYSICS	INTRODUCTION TO OPTICS	10	
3.	VI SEM B.SC. PHYSICS	INTRODUCTION TO BASICS OF PROGRAMMING LANGUAGE	10	
4.	111 SEM COMPLIMENTARY PRACTICAL	INTRODUCTION TO BASICS OF GENERAL AND ELECTRONICS PRACTICALS	10	
5.	V SEM B.SC. PHYSICS	INTRODUCTION TO MODERN PHYSICS	10	

8) University Results of Courses engaged (result published of previous batch)

Sl.No.	Batch	Course name	Number of students appeared in the University examination	Number of students passed	Percentage of pass	Result Analysis
1.	B.SC. 2016-19	COMPUTATIONAL PHYSICS	40	36	90	90 ABOVE-Nil 80-89=6 70-79=7 60-69=8 50-59=6 Below 50=9
2.	M.Sc. 2018-20	Computational Physics	12	12	100	90 above 1 80-89=3 70-79=5 60-69=2 50-59=1

9) Learning Outcome of the Course

Sl.No.	Course	Course Outcome	Analysis of Course Outcome
1.	CLASSICAL MECHANICS	To understand Small Oscillation method of Problem Solving	
		To solve problems using Lagrangian and Hamiltonian Dynamics	
		To understand the importance of canonical transformations	
		To solve Problem using Hamilton Jacobi equation	
		To understand the Kinematics and Dynamics of Rigid Body	
2.	COMPUTATIONAL PHYSICS PG	To Have a strong base in Python language regarding different data type such as list, sets, dictionary etc	
		To understand the different modules like NUMPY, Matplotlib etc	
		To Understand Arrays and matrices and enables data visualization	
		To Get a wide knowledge of numerical methods in computational Physics that can be used to solve many problems which does not have an analytic solution	
		To Solve problems in physics such as standing waves, central field motion, Kirchoffs law etc using python language.	
3.	COMPUTATIONAL PHYSICS UG	To Have a strong base in Python language regarding different data type such as list, sets, dictionary etc	
		To understand the different modules like math, pickle etc	
		To Understand [packages supporting data visualization	
		To Get a wide knowledge of numerical methods in computational Physics that can be used to solve many problems which does not have an analytic solution	
		To Solve problems in physics such as freely falling body, projectile motion, central force motion,	

10 a) Tutorial System

Class in charge	Total Hours engaged		Brief Report of Tutorial activities
	Odd	Even	
M.SC. 2019-21	45	90	<ul style="list-style-type: none"> • Socio-cultural profile of all students is collected and documented • QIP files including all details of students are maintained and updated • Tutorial feedback is conducted weekly. • Grievance reparation of students are done with utmost priority • Advanced learners and slow learners are groomed accordingly

10 b) Details of Slow Learners

Sl. No	Name of Slow Learners	Special Programmes arranged	Outcome achieved
1.	Vyshna Suresh	Peer teaching	Performance improved in internal exams
2.	Saheer	Peer teaching and Bridge sessions	Improved
3.			

10 c) Details of Advanced Learners

Sl. No	Name of Advanced Learners	Special Programmes arranged	Outcome achieved
1.	Anjima raj	NET exam orientation,	

		registration to online courses	
2.	Ansi	Registration to online courses	
3.	Salmabi	Online Courses Registration	

10 d) Personal Mentoring/Counselling given

Sl.No.	Date	Whether Internal/External	Remarks
1.	20/12/2019	Internal	
2.	10/01/2020	Internal	

11) Usage of ICT/E-learning technology.

Sl No.	Course	ICT/E-resources prepared and used
1.	COMPUTATIONAL PHYSICS	TEACHING PROGRAMMING LANGUAGE PYTHON: OPEN SOURCE SOFTWARE
2.	OPTICS	PPT ON POLARISATION, PDF NOTES, GOOGLE CLASSROOM
3.	CLASSICAL MECHANICS	PPT ON NON LINEAR DYNAMICS
4.	PYTHON PRACTICALS	File mode in python, using projector
5.	Diffraction and Interference	PPT, YOUTUBE VIDEOS, GOOGLE CLASSROOM
6.	Non Linear Dynamics and Chaos	PPT, YOUTUBE VIDEOS, GOOGLE CLASSROOM
7.	Non-Conventional Energy Sources	PPT, YOUTUBE VIDEOS, GOOGLE CLASSROOM

12) Student centric teaching and Innovations in teaching introduced, if any

Sl No.	Course	Student Centric methods introduced	Innovative Teaching methods introduced
1.	Computational Physics	Team teaching	
2.	Use of Google classrooms	Assignment sharing via google classroom	
3.	YOUTUBE VIDEOS	Google form exams	
4.	e-content sharing via telegram	Discussion via google class	
5.	Recorded video classes	Student follow up via google form quizzes	

13) Details of Examination duties taken

Duty	Name of Examination	University/Autonomous College	Dates
Valuation Duty			
Invigilation Duty	1 SEM PG 1 SEM UG 3 SEM UG 3 SEM PG	University	3/02/20 28/11/19 19/11/19 13/11/19 23/09/19
Practical Exam duty	2nd sem , 3 rd sem, 4 th sem complimentary UG and PG	University of Calicut	
Project Evaluation	6 th sem UG and 4 th sem PG	University of Calicut	
Viva Voce	4 th sem PG	University of Calicut	

Question bank preparation	4 th sem		
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14) Research funds generated

Sl. No	Name of the Project	Major/Minor	Funding Agency	Funds Received	Status of the Project

15) Project Guidance (UG, PG, M.Phil. etc.)

Sl. No	Title of the Project	Students	UG	PG	MPhil	Duration	Any Fund Received	Funding Agency
1.	Optical studies on band gap engineered Sb-Ni-V-O complex cation compounds	Hisana. P Mes Ponnani College		PG		6 months	No	
2.	Narrow band gap tuning of multication Antimony Vanadium Oxide systems using Tauc plot and KM theory	Sreelekha, Sree Vyasa College, Wadakkancherry		PG		6 months	No	
3.	Synthesis and optical studies of Sb-VO compounds	Mohammed Fayiz, Assabah College		PG		6 months	No	
4.	Microstructure profiling of NVO compounds using WH plots and size strain plots	Shibi, Assabah College		PG		6 months	No	
5.	Synthesis, Microstructure	Aiswarya, SN		PG		6 months	No	

analysis and optical studies on Nickel-Antimony-Vanadium-Oxide systems	College, Nattika						
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16) Research Guide ship details

Sl.No	Name of Scholar	Research Centre	Research Guide	FIP/JRF/Full time/Part time	Status

17 a) Publications in 'CARE' listed Journals

Sl No.	Title	Name of the Journal	Impact Factor	ISBN/ISSN No.	Issue, Volume, Year, Page No.	Authorship
	Microstructure profiling and photoluminescence characteristics of V(1-x)2 Ni3xO5-d compound systems	Material Letters, Elsevier	3.02			1 st author

17 b) Publication of Books, Book Chapters, Seminar Proceedings, Popular Articles etc.

Sl No	Title of article	Title of book, magazine, Periodical etc.	Name of the Publisher	Regional/National/ International	ISBN	Issue, Volume, Page No, Year

1.	SYNTHESIS, MICROSTRUCTURE ANALYSIS AND OPTICAL STUDIES ON V_{(1-x)2}Ni_{3x}O_{5-δ} COMPLEX SYSTEMS	Abstract proceedings	TKM COLLEGE	International		30
2.	MICROSTRUCTURAL PROFILING AND OPTICAL CHARACTERIZATIONS ON COMPLEX V_{2-x}Sb_{2x}O_{5-δ} SOLID SOLUTIONS	Abstract proceedings	FAROOK COLLEGE	International		72
3.						
4.						
5.						

18) Editorial ship of Journal/Books

Sl. No	Title of book/Journal	Name of the Publisher	Peer reviewed/National/ International	ISBN/ Impact Factor	Issue, Volume, Page No, Year (In the case of Edited Book)

19) Faculty as Invited speaker, Resource person etc.

Sl. No	Title of topic	Details of Programme	Date	Organised by	Invited Speaker/Resource person
1.	Energy	Seminar to plus two		Umeri English School	Invited speaker

	Conservation	students			
2.					
3.					

20) Participation in Orientation/Refresher Programmes/Seminars/Workshops/Conferences/FDP/Training Programmes/Summer, Winter School Programmes etc.

Sl. No.	Program	International/National /State/Regional	Dates	Organised By	Paper/Poster Presented or not
1.	International Conference on Energy and Environment	International	12-14 December 2019	TKM College of Arts and Science Kollam	Paper presented
2.	International Conference on Theoretical and Experimental Physics	International	5-6 February 2020	Farook Arts and Science College, Calicut	Paper presented
3.	Young Innovators Facilitator Workshop	State			
4.	National workshop on computer interfaced physics experiments	National	6-10 May 2019	Department of Physics, University of Calicut	
5.	Seminar-Presented a paper on 'Highly conducting P type Vanadium Oxide thin films and its optical properties'	Two day National Seminar on 'Advances In Applied Physics and Applications'		Sree Krrishna College, Guruvayoor	Presented paper
6.	National Conference	National Conference on Material science and Nanotechnology	18-20 March 2019	MES Ponnani college	Presented paper

21) Patents filed/Sanctioned

SI No	Details of Patent	Patent No	Indian/US/International

22) Seminars/Workshops/Conferences/FDP/Training Programmes/Fests etc. co-ordinated

Sl. No.	Title	Seminars/Workshops/Conferences/FDP /Training Programmes/Fests	Dates	Funding Agency	Total funds received
1.	Walk With A Scholar Mentoring Sessions	Advanced learners training programme	2019-20	New-Initiatives of Higher Education, Govt. of Kerala	Rs 1.37.600/- Rs. 70,000/-
2.	National Science day celebration	Seminar on Women in /science	2019-20	APT, Kerala	Rs. 5000/-
3.	Walk With a Scholar program Coordinator	Training Programme	2018-19	New-Initiatives of Higher Education, Govt. of Kerala	Rs. 1,94,400/- Rs. 70,000/-
4.	Workshop on Electrical Equipment Maintanance	Workshop	2018-19	PTA	Rs. 10,000/- NAtional
5.	National Science Day Celebration-NSD Scire	Seminar	2014-15	KSCSTE	Rs. 10,000/-
6.	Breast Cancer Awareness Seminar	Seminar	2017-18	Shanthi Palliative, Ponnani	Rs. 10,000/-

23) Details of Internships/Apprenticeship/OJT/Study Tours/ Field Trips/Industrial Visits etc. co-ordinated

Sl. No.	Activity	Class	Number of Students	Dates	Remarks

1.	Motivation Visit to Hyderabad Central University, EFLU	WWS students	30	2019. Jaanuary	
2.	Field trip to VSSC, Trivandrum	2 nd B. Sc. Physics students	45	2018, August	
3.	Field Trip to Kayyeni nature camp	Boomithrasena students	60	2020, January	

24) Details of Extension, Out-reach programmes co-ordinated

Sl. No.	Activity	Number of Students Participated	Dates	Remarks
1.	Pratheeksha-Palliative orientation camp	120	2019, September	
2.	Palliative Microfunding campaign	120	2020, January	
3.	Electrical Equipment Maintenance Workshop	90	2018	
4.	Seminar on Household energy conservation	120	2016	
5.	Athijeevanam –Cancer Awareness Seminar	300	215	

25) Details of other duties engaged and Contribution to corporate life

Sl No	Other duties in-charge, Contribution to corporate life	Activities Organized with dates

26) Membership in Academic/Professional bodies (Existing only)

Sl. No.	Details of Membership	Organization	Period/Duration
1.	Life time member	Academy of Physics Teachers, Kerala	Life time member

27) Awards & Recognitions received

Sl. No	Name of Award/Recognition	Awarded by	International/national/state/University/College	Details

28) Library Visit/N list access

No of library visits as per Library record	No of books borrowed	No of reference books borrowed
15	12	

29) Details of Leave (other than Casual Leave) and deputation availed

Leave	LPL	CML	HPL	Maternity/Paternity Leave	Duty Leave	FIP	Deputations	Any Other Leave	Total
No of days	NA	NA		NA	15	NA	NA		

30) Individual action plan reflecting opportunities and challenges in your domain.

Opportunities	1)To acquire PhD 2)To avail funds for major and minor projects 3)To practice innovative ICT based learner centric teaching methods 4)Educational upliftment of socially backward students
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Challenges	1)Hectic schedule of the semester system 2)Lack of facilities and instruments for research and M. SC. projects 3)Lack of requisite instruments and facilities in lab 4)Inadequate number of computers while dealing with Computational Physics paper
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31) Any Other relevant information

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Name and Signature of Teacher: Sabna. M

Name and signature of HoD

Name and Signature of Principal

Date: 08/02/19



THE MUSLIM EDUCATIONAL SOCIETY, CALICUT
ACADEMIC & ADMINISTRATIVE AUDIT
FOR ARTS & SCIENCE COLLEGES

AAA PROFORMA FOR TEACHERS
(FORM No. 1)

ACADEMIC & ADMINISTRATIVE AUDIT FOR ARTS & SCIENCE COLLEGES

PROFORMA FOR TEACHERS –(FORM No. 1)

(Fill carefully in the given MS Word format. Add more columns if needed)

Academic year: 2019 to 2020

1) Name: Dr. M. Nithya

2) Designation: Assistant Professor

3) Department: Geology

4) Qualifications: M.Sc., PhD

5) Details of Additional Qualifications achieved including SWAYAM, MOOC, NPTEL, NMEICT courses: **Nil**

Sl. No.	Programme	Awarded by	Grade Obtained	Date of degree/Award

6) Details of Classes Engaged including Practical

a) Odd Semester

Sl.No.	Classes engaged (Semester and programme)	Course name	Total Number of hours allotted	Total Number of hours engaged	Extra Hours taken, if any	Syllabus Completed or Not	Remarks
1.	I semester BSc. Geology	GEO1B01 Essentials of Geology	18	18	3	Completed	
2.	V semester B.Sc. Geology	GL5B09 Stratigraphy and physiography of India	32	32	4	Completed	

3.	I M.Sc. Applied Geology	GEL 1C 03 Geoinformatics	40	40	5	Completed	
4.	I M.Sc. Applied Geology	GEL 1L 01 Geomorphology, Structural Geology, Geoinformatics	30	30	0	Completed	
5.	III M.Sc. Applied Geology	Remote Sensing & Geographic Information System	30	30	4	Completed	

b) Even Semester

Sl.No.	Classes engaged(Semester and programme)	Course name	Total Number of hours allotted	Total Number of hours engaged	Extra Hours taken, if any	Syllabus Completed or Not	Remarks
1.	II Semester B.Sc. Geology	GEO2B03 Dynamic and Geoinformatics	10	4	Nil	Completed	
2.	VI Semester B.Sc. Geology	GL6B20 Indian Mineral Deposits	33	23	Nil	Completed	
3.	VI Semester B.Sc. Geology	GL6B18 Palaeontology	10	10	Nil	Completed	
4.	II Semester M.Sc. Applied Geology	GEL2C06 Economic Geology	12	3	Nil	Completed	
5.	II Semester M.Sc. Applied Geology	GEL2C08 Applied Palaeontology & Sedimentology	26	8	Nil	Completed	
6.	IV M.Sc. Applied Geology	GEL4C12 Economic Geology	10	7	Nil	Completed	

7.	IV M.Sc. Applied Geology	GEL2L02 Crystallography, Mineralogy, Economic Geology, Hydrogeology, Palaeontology & Sedimentology	10	2	Nil	Completed	
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7) Bridge Course/Remedial Classes taken: Nil

Sl.No.	Class	Course	No. of Hours taken	Details of result improvement

8) University Results of Courses engaged (result published of previous batch)

Sl.No.	Batch	Course name	Number of students appeared in the University examination	Number of students passed	Percentage of pass	Result Analysis
1.	2019-2020	GLY6B18 Palaeontology	33	28	85	A grade – 1; B grade – 5; C grade – 4; D grade – 7; E grade – 11; F - 5
2.	2019-2020	GLY6B20 Indian mineral deposits	33	29	88	A grade – 1; B grade – 2; C grade – 10; D grade – 8; E grade – 8; F - 4
3.	2018-2019	GL1B01 Earth systems and processes	35	35	100	A grade – 2; B grade – 8; C grade – 10; D grade – 9; E grade -

						6
4.	2018-2019	GL5B09 Stratigraphy and physiography of India	33	33	100	A grade – 4; B grade – 9; C grade – 9; D grade – 4; E grade - 2
5.	2018-2019	GL6B18 Palaeontology	33	33	100	A grade – 6; B grade – 8; C grade – 7; D grade – 3; E grade - 4
6.	2018-2019	GL6B20 Indian Mineral Deposits	33	33	100	A grade – 2; B grade – 9; C grade – 9; D grade – 7; E grade - 1
7.	2018-2019	GEL3E01 Remote Sensing & Geographic Information System	13	13	100	B grade - 13
8.	2018-2019	GEL4C12 Economic Geology	13	13	100	B grade –4; C grade: 9
9.	2018-2019	GEL1C03 Stratigraphy and Applied Palaeontology	11	11	100	B grade –5; C grade: 6
10.	2018-2019	GEL2C06 Applied Geology and Marine Geology	11	11	100	B grade – 5; C grade- 6
11.	2018-2019	GL6B22P Petrology and palaeontology	34	28	82	A+ = 2; A – 8; C – 12, D- 5; E - 1

9) Learning Outcome of the Course

Sl.No.	Course	Course Outcome	Analysis of Course Outcome
1.	GEO1B01 Essentials of Geology	Understand the nature and basic concepts of Physical geology, Geomorphology, and Historical Geology	The student will be able to explain the origin and evolution of earth, various branches of Geology and elementary ideas of plate tectonics.
2.	GEO2B03 Dynamic Geology and Geoinformatics	Understand the basic concepts of remote sensing and its applications in various field	The student will be able to discuss the basics of remote sensing, different satellite data products, platforms and sensors.
3.	GL5B09 Stratigraphy and physiography of India	Understand the concepts of stratigraphic time scale and its significant in various earth processes	The student will be able to explain the geologic time scale. The student will be able to describe the laws of stratigraphy, Physical and biological criteria of correlation, and imperfections in geological records. The student will be able to discuss the physiographic and major stratigraphic divisions of India.
4.	GEL1C03 Geoinformatics	Understand the concept of aerial photography and satellite remote sensing and its applications in various field	The student should be able to explain the fundamentals of aerial photography and remote sensing. The student should be able to discuss electromagnetic spectrum, resolution concepts, various sensors, and Indian remote sensing satellite missions. The student should be able to explain the fundamentals of digital image processing and classification, thermal and microwave remote sensing.

5.	GL6B18 Palaeontology	Understand the concept of fossils and its significance	The student will be able to explain the general morphology, geological history, distribution and stratigraphic significance of the important phylums of organisms.
6.	GL6B20 Indian Mineral Deposits	Learn about different economic minerals all over the India and its formations and distribution	The student will be able to describe the diagnostic physical properties, chemical composition, uses, modes of occurrence and distribution in India of the important ore minerals.
7.	GEL3E01 Remote Sensing & Geographic Information System	Understand the concept of aerial photography and satellite remote sensing and its applications in various field	The student should be able to explain the fundamentals of aerial photography and remote sensing. The student should be able to discuss electromagnetic spectrum, resolution concepts, various sensors, and Indian remote sensing satellite missions. The student should be able to explain the fundamentals of digital image processing and classification, thermal and microwave remote sensing.
8.	GEO1B01 Essentials of Geology	Apply the concepts of Physical geology, Geomorphology, and Historical Geology in solving problems and taking decisions.	The student will be able to explain the origin and evolution of earth, various branches of Geology and elementary ideas of plate tectonics. The student will be able to identify the various methods of age determination of earth and also about the time span represented by the Geological Time Scale.

10 a) Tutorial System

Class in charge	Total Hours engaged		Brief Report of Tutorial activities
	Odd	Even	
I M.Sc. Applied Geology	6	1	Conducted few classes regarding How to face competitive exams and interviews and NET/GATE/SET preparation tips.

10b) Details of Slow Learners

Sl. No	Name of Slow Learners	Special Programmes arranged	Outcome achieved

10c) Details of Advanced Learners

Sl. No	Name of Advanced Learners	Special Programmes arranged	Outcome achieved

10d) Personal Mentoring/Counselling given

Sl.No.	Date	Whether Internal/External	Remarks

11) Usage of ICT/E-learning technology.

Sl No.	Course	ICT/E-resources prepared and used
1.	GEO1B01 Essentials of Geology	Power point presentation
2.	GL5B09 Stratigraphy and physiography of India	Power point presentation
3.	GEL1C03 Geoinformatics	Power point presentation
4.	GL6B18 Palaeontology	Power point presentation
5.	GL6B20 Indian Mineral Deposits	Power point presentation
6.	GEL3E01 Remote Sensing & Geographic Information System	Power point presentation

12) Student centric teaching and innovations in teaching introduced, if any

Sl No.	Course	Student Centric methods introduced	Innovative Teaching methods introduced

13) Details of Examination duties taken

Duty	Name of Examination	University/Autonomous College	Dates
Valuation Duty	V semester B.Sc. Geology examination	Christ College Irinjalakuda	08/11/2019, 11/11/2019
	I Semester B.Sc Geology	University of Calicut	23/07/2019

	II Semester B.Sc Geology III Semester B.Sc Geology IV Semester B.Sc Geology V Semester B.Sc Geology VI Semester B.Sc Geology III and IV Semester BSc. Geology Practical examination	University of Calicut University of Calicut University of Calicut University of Calicut University of Calicut University of Calicut	07/11/2019 28/06/2019 30/08/2019 26/02/2020 to 29/02/2020 15/05/2020 to 19/05/2020 11/07/2019 to 12/07/2019
Invigilation Duty	I, III, V semester BA/BSc./B.Com/BBA examination and I, II, III semester MA/M.Sc./Mcom examination	University of Calicut	28/11/2019, 03/12/2019, 15/01/2020, 06/02/2020, 10/02/2020
Practical Exam duty	III and IV semester B.Sc. Geology Practical examination V and VI semester B.Sc. Geology Practical examination V and VI semester B.Sc. Geology Practical examination	Sahrdaya college of Arts and Science, Kodakara KVU memorial Darul Hidayah Arts and Science College, Kololomba Christ College Irinjalakuda	04/07/2019, 05/07/2019 18/03/2020 to 19/03/2020 10/06/2020 to 12/06/2020
Project Evaluation	Nil		
Viva Voce	V and VI semester B.Sc. Geology	KVU memorial Darul Hidayah Arts and Science College, Kololomba	19/03/2020
Question bank preparation	Nil		

14) Research funds generated: Nil

Sl. No	Name of the Project	Major/Minor	Funding Agency	Funds Received	Status of the Project

15) Project Guidance (UG, PG, M.Phil. etc.)

Sl. No	Title of the Project	Students	UG	PG	MPhil	Duration	Any Fund Received	Funding Agency
1.	Composition and age of mare units exposed in Bowditch crater and Mare lacus solitudinus on the farside of the moon; implication for understanding the lunar basalt volcanism	1		1		6 months	Nil	--
2.								

16) Research Guide ship details:

Sl.No	Name of Scholar	Research Centre	Research Guide	FIP/JRF/Full time/Part time	Status
1.	Shabana Ebrahim	Department of PG studies and Research in Geology, MES Ponnani College	Dr. M. Nithya	Full time	She successfully presented her research proposal before the RAC and registration process is going on.

17 a) Publications in 'CARE' listed Journals: **Nil**

Sl No.	Title	Name of the Journal	Impact Factor	ISBN/ISSN No.	Issue,Volume, Year, Page No.	Authorship

17 b) Publication of Books, Book Chapters, Seminar Proceedings, Popular Articles etc: **Nil**

Sl No	Title of article	Title of book, magazine,	Name of the	Regional/National/	ISBN	Issue, Volume, Page

		Periodical etc.	Publisher	International		No, Year

18) Editorial ship of Journal/Books: **Nil**

Sl. No	Title of book/Journal	Name of the Publisher	Peer reviewed/National/International	ISBN/Impact Factor	Issue, Volume, Page No, Year (In the case of Edited Book)

19) Faculty as Invited speaker, Resource person etc.: **Nil**

Sl. No	Title of topic	Details of Programme	Date	Organised by	Invited Speaker/Resource person

20) Participation in Orientation/Refresher Programmes/Seminars/Workshops/Conferences/FDP/Training Programmes/Summer, Winter School Programmes etc.

Sl. No.	Program	International/National/State/Regional	Dates	Organised By	Paper/Poster Presented or not
1.	Short term course on “fluids in the Earth”	International	09/09/2019 to 13/09/2019	University of Milano, Milan, Italy	No

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21) Patents filed/Sanctioned: **Nil**

SI No	Details of Patent	Patent No	Indian/US/International

22) Seminars/Workshops/Conferences/FDP/Training Programmes/Fests etc. co-ordinated: **Nil**

Sl. No.	Title	Seminars/Workshops/Conferences/FDP /Training Programmes/Fests	Dates	Funding Agency	Total funds received

23) Details of Internships/Apprenticeship/OJT/Study Tours/ Field Trips/Industrial Visits etc. co-ordinated: **Nil**

Sl. No.	Activity	Class	Number of Students	Dates	Remarks

24) Details of Extension, Out-reach programmes co-ordinated: **Nil**

Sl. No.	Activity	Number of Students Participated	Dates	Remarks

25) Details of other duties engaged and Contribution to corporate life: **Nil**

Sl No	Other duties in-charge, Contribution to corporate life	Activities Organized with dates

26) Membership in Academic/Professional bodies (Existing only): **Nil**

Sl. No.	Details of Membership	Organization	Period/Duration

27) Awards & Recognitions received: **Nil**

Sl. No	Name of Award/Recognition	Awarded by	International/national/state/University/College	Details

28) Library Visit/N list access

No of library visits as per Library record	No of books borrowed	No of reference books borrowed
10	9	Nil

29) Details of Leave (other than Casual Leave) and deputation availed

Leave	LPL	CML	HPL	Maternity/Paternity Leave	Duty Leave	FIP	Deputations	Any Other Leave	Total
No of days	-	-	-	-	-	-	-	-	

30) Individual action plan reflecting opportunities and challenges in your domine.

Opportunities	1) The GIS laboratory will provide the opportunity for the users by imparting training programmes and other similar academic activities. It provides new capabilities for analysing various phenomena 2) Having the opportunity to carry out field based studies
Challenges	1) Time constraints to carry out study tour due to semester pattern 2) Lack of proper software or instruments to carry out remote sensing studies

31) Any Other relevant information



M. Nithya

Name and Signature of Teacher

Name and signature of HoD

Name and Signature of Principal

-Date: 27-08-2020



THE MUSLIM EDUCATIONAL SOCIETY, CALICUT

ACADEMIC & ADMINISTRATIVE AUDIT

FOR ARTS & SCIENCE COLLEGES

AAA PROFORMA FOR DEPARTMENTS

(FORM No. 2)

ACADEMIC & ADMINISTRATIVE AUDIT FOR ARTS & SCIENCE COLLEGES

PROFORMA FOR DEPARTMENTS – (FORM No.2)

(Fill carefully in the given MS Word format. Add more columns if needed)

Academic Year:.....2019-20.....

1. Name of the Department: **CHEMISTRY**
2. Socio Economic Profile

Sl No	Batch	Tutors	Total No of students		Minorities		OBC		SC/ST		From Other state		Divyangjan		Transgender if any
			Boys	Girls	Boy	Gir	Boy	Gir	Boy	Girl	Boy	Girls			

					s	ls	s	ls	s	s	s	s	s		
1	I year B.Sc. Chemistry	SRI.UMESH C.V.	7	39	6	30	6	30	1	4	0	0	0	0	0
2	II Year B.Sc. Chemistry	DR.YUSAFALI C.	09	39	6	21	06	27	02	07	00	00	00	00	0
3	III Year B.Sc. Chemistry	SMT.MINSHIYA .P	6	34	3	23	3	30	2	4	00	00	00	00	00

3. Faculty details including Guest/Visiting Faculty

Sl No	Name	Permanent/temporary/Visiting	Designation	Qualification	Experience in this Institution	Total Experience
1.	SMT.SOUMYA.C.C	PERMANENT	ASSISTANT PROFESSOR AND H.O.D	M.SC.CHEMISTRY, B.Ed., NET-JRF	7 yrs	7 yrs
2.	SMT.MINSHIYA.P	PERMANENT	ASSISTANT PROFESSOR	M.SC.CHEMISTRY, NET	1 YR	7 yrs
3	SRI.UMESH C.V.	PERMANENT	ASSISTANT PROFESSOR	M.SC.CHEMISTRY, NET	4 YRS	7 yrs
4.	DR.YUSAFALI C.	PERMANENT	ASSISTANT PROFESSOR	M.SC.CHEMISTRY, PHd	1 Year, 08 Months	2 Years, 11 Months
5.	KM.KHADEEJATHUL LAREEFA	TEMPORARY	GUEST FACULTY	M.SC.CHEMISTRY	8 months	8 months

4. Number of teachers awarded Ph.D. during the year: NIL

5. No of teachers registered & pursuing Ph.D.:- 2

6. Actual work load:- **105**
7. Number of Sanctioned Teaching Posts:- **4**
8. Current Vacancy:- **0**
9. Details of Supporting Staff

SI No	Name	Qualification	Designation	Experience	Permanent/Temporary
1	SRI.NAZEER CHERACHAMVEETIL	SSLC- FAIL	LAB ASSISTANT	28 yrs	PERMANENT
2	SRI.ABDUL GAFOOR K.P.	SSLC	LAB ASSISTANT	3 yrs	(Retired)TEMPERORY

10. Programmes offered by the department (UG and PG):

SI No	Programme	Batch	No of Students Admitted	Current Strength	Student-Teacher Ratio	Drop out ratio
1	I BSC CHEMISTRY	I year	48	46	45:1	4% 2 out of 48
2	II BSC CHEMISTRY	II Year	49	48		2% 1 out of 49
3	III BSC CHEMISTRY	III Year	48	40		16% 8 out of 48

11. Demand Ratio and Unit Cost

SI No	Programme	Unit Cost of Education	CAP Admission Eligibility Mark %		Demand ratio of General Merit Seats	Demand ratio of Community Quota Seats	Demand Ratio of Management Quota Seats
			Top Rank	Last Rank			
1	B.SC. CHEMISTRY		96.16 %	92%	1:107		

12. Details of Value Added Courses/Programmes Conducted by the department

Sl no	Value Added Courses/Enrichment Programmes	Duration	Names of Teachers Engaged.	Number of students participated
1	INTRODUCTION TO SEWAGE DISPOSAL	30 HRS	SOUMYA C. C. , MINSHIYA P.,UMESH C.V. , Dr.Yusafali C.	25

13. Result Analysis 2018-19

Sl. No	Programme	Number of students appeared	Number of students passed (Eligible For Higher Studies)	Percentage of pass	Grade					Result Analysis
					A+	A	B	C	D	
1	VI Semester B.Sc. Chemistry	31	26	84%	0	7	6	10	3	

14. University Rank/Positions if any

Sl. No.	Programme	Name of the student	Rank/ Position (upto 10 th position)

15. Add on, Certificate, Diploma programs offered by department

Sl No	Programme	Certification by	No of students participated	No of students appeared for the examination	Pass %	Fee details
1	CHEMISTRY IN EVERYDAY LIFE	M.E.S. PONNANI COLLEGE	21	20	95%	NIL

16. Programme outcome details

Sl No	Programme	Programme Outcome (PO)	Programme Specific Outcome (PSO)	Analysis
	BSC CHEMISTRY	<ul style="list-style-type: none"> Enrich theoretical and practical skills to gather desired knowledge to expertise in pursuit of their interest and goals Solve complex and diverse problems using scientific methods and evaluating the strengths and limitations of their solutions Embrace learning experiences that produce environmentally active and informed minds whereby conservation and sustainability of nature becomes priority 	<ul style="list-style-type: none"> To understand the basic facts and concepts of Chemistry To develop the ability to apply the principles of Chemistry To appreciate the achievements in Chemistry and to know the role of Chemistry in Nature and in Society 	<p>Students could understand the basic facts and concepts of Chemistry</p> <p>They appreciate the achievements in Chemistry and understood the role of Chemistry in Nature and in Society</p>

17.Details of Courses of other departments (Complementary, Language etc.) offered by the department (Including open Course)

Sl No	Courses including practical	Name of faculty engaged	Details of University result published - previous batch		
			Batch	Pass percentage	Name of faculty engaged that batch
1	Environmental Chemistry(Open)	Soumya .C.C, Umesh.C.V.	2018-19	100%	Soumya .C.C, Umesh.C.V.
2	General Chemistry(for Zoology,)	Soumya.C.C , Minshiya.P Dr.Yusafali C., Khadheejathul Lareefa C.	2018-19	92%	Soumya.C.C , Dr.Sadhikali C., Soumni.C, Drisya
3	General Chemistry(for Geology)	Soumya.C.C , Umesh.C.V., Minshiya.P, Khadheejathul Lareefa C.	2018-19	71%	Soumya.C.C , Umesh.C.V., Soumni.C, Drisya
4	General Chemistry(for Physics)	Dr.Yusafali C, Umesh.C.V., Minshiya.P, Khadheejathul Lareefa C.	2018-19	85%	Dr.Sadhikali C, Umesh.C.V., Soumni.C , Drisya
5	Physical Chemistry(for Zoology,)	Soumya.C.C , Minshiya.P Dr.Yusafali C., Khadheejathul Lareefa C.	2018-19	95%	Soumya.C.C , Soumni.C ,Dr.Yusafali C., Drisya.
6	Physical Chemistry(for Geology)	Soumya.C.C , Umesh.C.V., Minshiya.P, Khadheejathul Lareefa C.	2018-19	63%	Soumya.C.C , Umesh.C.V., Soumni.C, Drisya
7	Physical Chemistry(for Physics,)	Dr.Yusafali C, Umesh.C.V., Minshiya.P, Khadheejathul Lareefa C.	2018-19	83%	Dr.Yusafali C, Umesh.C.V., Soumni.C, Drisya
8	Organic Chemistry (for Zoology)	Minshiya.P, Dr.Yusafali C., Khadheejathul Lareefa C.	2018-19	89%	Soumni.C, Dr.Sadhikali C., Drisya
9	Organic Chemistry(for Physics)	Minshiya.P, Dr.Yusafali C., Khadheejathul Lareefa C.	2018-19		Soumni.C, Dr.Sadhikali C., Drisya

10	Organic Chemistry (for Geology)	Minshiya.P, Dr.Yusafali C., Khadheejathul Lareefa C.	2018-19	63%	Soumni.C, Dr.Sadhikali C., Drisya
11	Physical and Applied Chemistry (for Zoology)	Minshiya.P, Dr.Yusafali C., Khadheejathul Lareefa C.	2018-19	100%	Soumni.C, Dr.Yusafali C., Drisya
12	Physical and Applied Chemistry(for Physics)	Minshiya.P, Dr.Yusafali C., Khadheejathul Lareefa C.	2018-19	91%	Soumni.C, Dr.Yusafali C., Drisya
13	Physical and Applied Chemistry(for Geology)	Minshiya.P, Dr.Yusafali C., Khadheejathul Lareefa C.	2018-19	95%	Soumni.C, Dr.Yusafali C., Drisya
14	Chemistry Practical(for Zoology)	Soumya.C.C, Khadheejathul Lareefa C.	2018-19	100%	Soumya.C.C, Drisya
15	Chemistry Practical(for Geology)	Minshiya.P , Khadheejathul Lareefa C.	2018-19	92%	Soumini.C., Drisya.
16	Chemistry Practical(for Physics)	Dr.Yusafali C. , Khadheejathul Lareefa C.	2018-19	100%	Dr.Yusafali C. , Drisya

18 a. Class engagement details of the department (Odd Sem)

Sl No	Course (including OC, courses for programmes of other departments)	Total hours allotted	Total hours engaged	Extra hours taken in addition to total allotted hours	Remedial Classes taken
1	OPEN COURSE	36	36	1	1
2	I SEM CHEMISTRY	32	32	4	5
3	III SEM CHEMISTRY	54	54	7	4
4	III SEM CHEMISTRY(P)	36	36	--	--
5	V SEM CHEMISTRY	198	198	10	9

6	V SEM CHEMISTRY(P)+ PROJECT	216	216	6	---
7	I SEM ZOOLOGY	32	32	--	2
8	I SEM PHYSICS	32	32	--	--
9	I SEM GEOLOGY	32	32	3	5
10	III SEM ZOOLOGY(p)	36	36	--	--
11	III SEM ZOOLOGY(T)	54	54	4	3
12	III SEM PHYSICS(P)	36	36	--	--
13	III SEM PHYSICS(T)	54	54	8	3
14	III SEM GEOLOGY(P)	36	36	--	--
15	III SEM GEOLOGY(T)	54	54	5	4

18 b. Class engagement details of the department (Even Sem)

Sl No	Course (including OC, courses for programmes of other departments)	Total hours allotted	Total hours engaged	Extra hours taken in addition to total allotted hours	Remedial Classes taken
1	II SEM CHEMISTRY	32	32	3	--
2	IV SEM CHEMISTRY	54	54	1	1
3	IV SEM CHEMISTRY(p)	36	36	--	--
4	VI SEM CHEMISTRY	216	216	17	11
5	VI SEM CHEMISTRY(P)	180	180	4	2
6	II SEM ZOOLOGY	32	32	3	2
7	II SEM PHYSICS	32	32	2	1

8	II SEM GEOLOGY	32	32	5	2
9	IV SEM ZOOLOGY(p)	36	36	--	--
10	IV SEM ZOOLOGY(T)	54	54	4	1
11	IV SEM PHYSICS(P)	36	36	--	--
12	IV SEM PHYSICS(T)	54	54	2	1
13	IV SEM GEOLOGY(P)	36	36	--	--
14	IV SEM GEOLOGY(T)	54	54	4	3

19 a. Continuous Internal Evaluation Details (Odd Sem)

Sl No	Course (including courses for programmes of other departments)	Number of students having shortage of attendance	Number of assignments given to each student	Number of Seminars presented By Each student	Number of Internal Examinations Conducted	No of Projects given	Number of Students failed in internal evaluation	Number of Students grievances received	No of grievances rectified
1	Theoretical and Inorganic Chemistry-I	Nil	5	2	1	0	0	0	0
2	Physical Chemistry-I	Nil	3	1	2	0	0	0	0
3	V Semester B.Sc Chemistry (INORGANIC CHEMISTRY – III, ORGANIC CHEMISTRY – II, PHYSICAL CHEMISTRY – II, CHE6B14(P): Physical Chemistry – Practical,ORGANIC CHEMISTRY	2	6	3	10	0	5	0	0

	PRACTICAL)								
	CHE6B18(Pr): Project Work)	Nil	1	0	0	1	0	0	0
4	ENVIRONMENTAL CHEMISTRY(open)	Nil	1	1	2	0	0	0	0
5	GENERAL CHEMISTRY(sub-ZOOLOGY)	Nil	2	1	1	0	0	0	0
6	GENERAL CHEMISTRY(sub-PHYSICS)	Nil	2	1	1	0	0	0	0
7	GENERAL CHEMISTRY(sub-GEOLOGY)	Nil	2	1	1	0	0	0	0
8	Organic Chemistry (sub- ZOOLOGY)	Nil	2	1	2	0	0	0	0
9	Organic Chemistry (sub- PHYSICS)	Nil	2	1	2	0	0	0	0
10	Organic Chemistry (sub- GEOLOGY)	Nil	2	1	2	0	0	0	0

19 b. Continuous Internal Evaluation Details (Even Sem)

Sl No	Course (including courses for programmes of other departments)	Number of students	Number of assignments	Number of Seminars	Number of Internal Examinations Conducted	No of Projects	Number of Students	Number of Students	No of grievances rectified
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		having short age of attendance	given to each student	presented By Each student		given	failed in internal evaluation	grievances received	error
1	Theoretical and Inorganic Chemistry-II	NIL	3	0	Not conducted [Due to Covid 19 Lock down]	0	0	0	0
2	ORGANIC CHEMISTRY- I	NIL	2	0	Not conducted [Due to Covid 19 Lock down]	0	0	0	0
3	VI sem CHEMISTRY (INORGANIC CHEMISTRY – IV, ORGANIC CHEMISTRY – III, PHYSICAL CHEMISTRY – III, Advanced and Applied Chemistry, POLYMER CHEMISTRY, INORGANIC CHEMISTRY PRACTICAL-II, INORGANIC CHEMISTRY PRACTICAL-III)	NIL	7	5	14	0	0	0	0
4	Complementary Course II: Physical Chemistry(zoology)	nil	1	0	Not conducted [Due to Covid 19 Lock down]	0	0	0	0
5	Complementary Course II: Physical Chemistry(physics)	nil	1	0	Not conducted [Due to Covid 19 Lock down]	0	0	0	0

6	Complementary Course II: Physical Chemistry(Geology)	nil	1	0	Not conducted[Due to Covid 19 Lock down]	0	0	0	0
7	Complementary Course IV: Physical and Applied Chemistry(zoology)	nil	1	0	1	0	0	0	0
8	Complementary Course IV: Physical and Applied Chemistry(physics)	nil	1	0	1	0	0	0	0
9	Complementary Course IV: Physical and Applied Chemistry(Geology)	nil	1	0	1	0	0	0	0
10	Complementary Course V: Chemistry Practical(zoology)	nil	1	0	1	0	0	0	0
11	Complementary Course V: Chemistry Practical(physics)	nil	1	0	Not conducted [Due to Covid 19 Lock down]	0	0	0	0
12	Complementary Course V: Chemistry Practical(Geology)	nil	1	0	Not conducted [Due to Covid 19 Lock down]	0	0	0	0

20. Reforms introduced in Continuous Internal Evaluation (CIE)

Brief description of Reforms introduced in Continuous Internal Evaluation (CIE)
There is centralised system in the college for conducting continuous internal evalutaion

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21. Tutorial System

Sl No	Class	Tutor	Total No. of Tutorial Hours during the year	Major Discussions in the Tutorial Hour	Tutorial Report Submitted or Not
1	I BSC CHEMISTRY	Sri.Umesh .C.V.	5	<ol style="list-style-type: none"> 1. Discussed about the Course and its opportunities 2. Talk about Time and its importance in life 3. General talk on current affairs 4. Laboratory Hygiene and Safety 	yes
2	II BSC CHEMISTRY	Dr. Yusafali. C.	9	<ol style="list-style-type: none"> 1. Selection of peer tutor of the class 2. Discussed about the lack of facilities available in the classroom (light, fan, etc.) 3. Gave awareness about the career opportunities and competitive examinations after BSc Programme. 4. Conducted a classroom discussion about the 2019 flood. Replaced one of the class tutors with another student.	yes
3	III BSC CHEMISTRY	Smt. Minshiya P.	9	problems and difficulties faced by the students. competitive exams like JAM	Yes

22. Details of Bridge Courses Conducted and its Outcome

Total No of Classes Conducted	No of students attended	No of Students Benefitted	Remarks
7	45	45	Improvement in learning capacity tested by conducting viva and test paper and it was found that they performed better than before.

23. Details of Remedial Courses Conducted and its Outcome

Total No of Classes engaged	No of students attended	No of Students Benefitted	Outcome
10	22	22	Improved the result of class test, Test Paper Mark improved, university exam results not yet come

24. Details of Programmes for Advanced learners and Outcome

Sl. No.	Programme	No of students attended	No of Students Benefitted	Outcome
1	I B.Sc. Chemistry	6	6	Highly motivated and some students Completed online certificate courses successfully
2	II B.Sc. Chemistry	3	3	Completed online NPTEL course successfully and highly motivated
3	III year B. Sc chemistry	16	4	Completed online NPTEL course successfully and highly motivated

25. Details of Programmes for Slow learners and Outcome

Sl. No.	Programme	No of students attended	No of Students Benefitted	Outcome
1	I B.Sc. Chemistry	6	6	Test Paper Mark improved, university exam results not yet come
2	II Year BSc Chemistry	9	9	Improved the result in internal exams, university exam result is not yet published.
3	III year B. Sc chemistry	14	5	Qualified for higher studies

26. Research Output of the Department.

Sl NO	Name of Research Guide.	Name of Research Centre	No of Ph.D. awarded this year	Number of Current Research Scholars	Details of Papers published in connection with the research topic	Details of Papers presented in seminars/Workshops in connection with the research topic

27. Details of Internship, Apprentice ship, Industrial Visit, Study tour, OJT, Student Projects etc

Sl No	Programme	Details Students Projects	Details of Internship, Apprentice ship, Industrial Visit, OJT	No of students not submitted report in

				time.
1	VI Semester BSc Chemistry	9 PROJECTS	Industrial Visit at Deccan Plast Industries, Mangaluru (03-01-2020 to 08-01-2020)	0
2	II BSC and III BSC CHEMISTRY		Visit to “Benco food products” to motivate students by showing the application of chemistry in industrial field on 28/10/2019	0

28. Details of enrolment in MOOC, and SWAYAM, other on- line courses of teachers and students

SINo	Online Course	Number of teachers attended	Number of teachers received certificates	Number of students attended	Number of students received certificates
1	SWAYAM-ARPIT-ONLINE REFRESHER IN CHEMISTRY	2	1		
2	ONLINE COURSE NPTEL			10	3

29. Student Centric and Innovative teaching methods

Student Centric teaching & Learning and Innovative methods introduced by the Department.
<p>Flipped Classroom - Study materials (PDF notes and youtube videos) are provided in advance and conducted Group Discussion in classroom</p> <p>Inquiry based learning – Based on various observations during laboratory experiments, students are directed to learn the science behind it by asking questions themselves</p> <p>Think-Pair-Share - For a particular topic, students are asked to think of it, share it with his/her pair and share their thought with others</p> <p>Group Discussion - Students are asked to form a group of 5/6, do the group discussion on the selected topic, and share with others</p> <p>Seminars using power point presentation</p> <p>Classes using Power point & animated videos</p> <p>Discussion</p>

Dual class by students
Google form assignments

30. Scholarship, Free ship, Financial Support such as Lap Top, free uniform, Bus fee waiver, Hostel fee etc.

SI No	Name of the scholarship, Free ship, Financial Support	Number of students Receiving	Amount
1	SUVARNA JUBILEE SCHOLARSHIP	7	10000/-
2	C.H. MOHAMMED KOYA SCHOLARSHIP	7	5000
3	POSTMETRIC SCHOLARSHIP	1	5000
4	MERITORIOUS SCHOLARSHIP	1	1250
5	E-GRANTZ	10	2500
6	CENTRAL SECTOR SCHOLARSHIP	4	10000/-
7	FISHERMAN SCHOLARSHIP	2	2500
8	MESPA	2	2000
9	CHEMISTRY ALUMNI SCHOLARSHIP	3	1500,1500,2000
10	SOUTH INDIAN BANK SCHOLARSHIP	1	5000

31. Details of Class PTA Conducted

SI No	Programme	Number of Class PTA Conducted with Dates	Number of Parents Participated	No of parents not participated
1	I B.Sc. Chemistry	1 - 25/02/2020	26	20
2	II B.Sc. Chemistry	1 - 04/02/2020	33	16
3	III year B. Sc chemistry	1 - 25/02/2020	24	16

32. Details of Department/Class Alumni organised 97th 9u

Sl No	Dept./Class Alumni.	Date	Number of Alumni Participated	Number of Faculty members participated	Remarks including Alumni Support
1	Department	7/6/2019	20	2	Scholarship to meritorious students from I,II and III year BSC. chemistry
2	Class	3/7/2019	15	4	

33. Details of Placement and Recruitment drives (Both internal & External)

Sl No	Details of Placement	Number of Students Participated	Number of Students placed with Details	Remarks

34. Progression to Higher Studies

Sl No	Completed programme in this college	Progression	Number of Students	Remarks
1	B.Sc. Chemistry(2018-2019)	Join to PG	12	--

35. Details of Competitive Exams(NET/SLET/SET/UPSC/PSC/Civil Service etc)

Sl No	Name of Competitive Examination	Number of Students Appeared	Number of Students Selected with details	Remarks

36. Details of MoU

Sl No	MoU with	Period of MoU	Activities in MoU	Activities conducted during the year
1	DEPARTMENT OF CHEMISTRY, SREEKRISHNA COLLEGE, GURUVAYOOR	5 YEARS	KNOWLEDGE SHARING	INTERCOLLEGIATE QUIZ COMPETITION, POWERPOINT PRESENTATION COMPETITION, SEMINARS ON "Higher Education Perspective In Chemistry", "MOLECULAR MACHINE :BASICS" and 'Introduction to Pericyclic reactions'
2	BENZY FOOD AND BEVERAGES, PONNANI	5 YEARS	FAMILIARISING WORKING INSTRUMENTS	INDUSTRIAL VISIT
3	WATER LAB	2 YEARS	TRAINING ON WATER ANALYSIS AND KNOWLEDGE SHARING	DONE A PROJECT ON WATER ANALYSIS BY THE STUDENTS OF III BSC CHEMISTRY WITH THEIR ASSISTANCE

37. Collaborations, Linkages, Exchange programmes etc.

Sl No	Collaboration/ Linkage/ Exchange programme	Sharing of Resources	Activities	Activities conducted during the year-
1	M.E.S HIGHER SECONDARY SCHOOL, PONNANI	KNOWLEDGE SHARING, ASSISTANCE AND ADVICE IN DOING PROJECTS FOR	PARTICIPATION IN INTERSCHOOL COMPETITION	INTERSCHOOL CHARTMAKING COMPETITION,

		PATICIPATING IN SCIENCE PROJECTS COMPETITIONS	ORGANISED BY THE DEPARTMENT	SOFT SKILL DEVELOPMENT PROGRAMME FOR SCHOOL CHILDREN
2	K.V.USTHAD MEMORIAL DHO ARTS AND SCIENCE COLLEGE,POOKARATHARA	KNOWLEDGE SHARING	SEMINARS,QUIZ COMPETITION	INTER COLLEGIATE QUIZ COMPETITION, INTER COLLEGIATE POWERPOINT PRESENTATION COMPETITION, SEMINARS ON “Higher Education Perspective In Chemisty” , “MOLECULAR MACHINE :BASICS” and ‘Introduction to Pericyclic reactions’
3	ANSAR COLLEGE PERUMBILAVU	PROJECT COLLABORATION	Student exchange	Master projects

38. Consultancy

Sl No	Consultancy details	Activities	Total Fund generated	Share of consultant	Share of department	Share of College

39. Details of Seminars, Workshops, FDP, Training Programmes, Skill enrichment programmes, Fests, camps, invited talks, Association activities etc. organised by the dept.

Sl No	Title of the programme	Dates	No of Participants		Funding Agency With fund sanctioned	Fund generated from any other sources	Total funds received
			From college	From Outside			
1	Motivational class	4/7/2019	40	0	---	---	---
2	Paper pen making	27/9/2019	22	0	----	----	----
3	INTERNATIONAL MOLE DAY CELEBRATION - FLASH QUIZ	24/10/19	1000	0	----	----	----
4	SHORT FILM SHOW	24/10/19	150	0	----	----	----
5	Seminar on “Introduction to Pericyclic reactions”	15-02-2020	39	12	----	----	----
6	ZEALICON 2020 – Association inauguration	20/2/2020	200	81	----	----	----
7	Intercollegiate power point presentation	19/2/2020	0	10	----	----	----
8	Intercollegiate quiz competition	19/2/2020	0	20	----	----	----
9	Film quiz competition	19/2/2020	150	0	----	----	----
10	Seminar on “MOLECULAR MACHINE :BASICS”	20/2/2020	134	28	----	----	----

40. Details of Extension, Out-reach programmes organised

SI No	Programme	Dates	Activities	Number of students participated	No of Teachers Participated
1	Fund raising for Santhi palliative clinic	17-01-2020	Fund collection	11	1
2	Interschool chart making competition	19/2/2020	Chart making competition based on	19	3
3	soft skill development programme for school children	19/2/2020	Making items using paper	32	3
4	Hand Sanitizer preparation and distribution	18/3/2020,19/3/2020,20/3/2020	Sanitiser preparation for various agencies like ponnani municipality, ward in ponnani, Namma medicare,Kruna pain and palliative care	16	4

41. Publications of Faculty in CARE journals, Books, Book Chapters, Popular articles etc.

SI No	Title of Article	Sole Author/First author/ Co author	Name of Journal/Book/ periodical	Publisher	ISSN/ISBN number, Volume, Year of publication

42. Publications of Students (Books, Book Chapters, Articles, by-lines, Stories, Poems etc.

SI No	Nature of publication	Name of author	Name of Journal/Book/ periodical/News paper etc.	Publisher	Date of Publication, Volume, Page etc.

43. Publications of Department (Journal, Magazines, Manuscripts, Wall magazine, e-magazines, News letters, etc.)

Sl No	Type of Publication	Name of Publication	Publication Date	Remarks, if any

44 Award/Recognitions received by the students and teachers

Sl No	Name of Awardees	Student/faculty	Awarded by	Details of award

45. Faculty as Invited speaker, resource persons, paper presenter etc.

Sl No	Name Faculty	Details of Programme	Date	Invited Speaker/Resource person/Paper presenter

46. Details of Career guidance, Counselling Class, Soft skill training, Awareness Programmes offered

Sl No	Name of Programme	Dates	No of students participated	Remarks, if any
1	Invited talk on “Higher Education Perspective In Chemistry”	20/2/2020	134	

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47. Usage of ICT/LMS by the Department

Sl No	Programme	Name of the Teacher	Type of ICT/E-resource	E-resources Generated
1	BSC CHEMISTRY	SOUMYA C C	VIDEO LECTURES	VIDEO LECTURES
2	BSC CHEMISTRY	MINSHIYA P.	VIDEO LECTURES	VIDEO LECTURES
3	BSC CHEMISTRY	UMESH C.V.	VIDEO LECTURES	VIDEO LECTURES
4	BSC CHEMISTRY	DR. YUSAFALI C.	VIDEO LECTURES	VIDEO LECTURES

48. Details of Funding

Sl No	Proposals Submitted	Proposals Sanctioned	Sanctioned Amount	Utilised Amount	Period

49. Sports Achievement of the departments (from University level onwards)

Sl No	Student	Achievement/Award	University/State/National	Remarks
1	NASREEN P.V. 2018-21	III – SINGLE STICK VEESHAL	INTERZONE (7/3/2020)	
		III – DOUBLE STICK VEESHAL		

2	NASREEN P.V. 2018-21	II – URUMIVEESHAL	DISTRICT KALARIPAYATTU CHAMPIONSHIP 2019(23 & 24 /11/2019)	
		II – SWORD AND SHIELD		
		III – NEDUVADI		
3	ABNA 2018-21	WOMEN TUG OF WAR- III PRIZE	UNIVERSITY OF CALICUT INTERZONE - 2019	
4	NASREEN P.V 2018-21.	III PRIZE	STATE KALARIPAYATTU CHAMPION SHIP-2018	

50. Fine Arts and Literary Achievement of the departments (from University level onwards)

Sl No	Student	Achievement/Award	University/State/National	Remarks
1	Souparnika K	2019-20 Cultural program in - EBSB camp	National level	Cultural
2	FAZAL MOHAMMED V P	First prize - Individual	Intercollegiate quiz competition	

51. Innovation Ecosystem (Maximum 500 words)

Initiatives of Innovation Ecosystem (IPR, IEDC, IIC, DST-NIMAT, ED club etc.)

52. Best practices of the department (Maximum 500 words)

Brief description of the Best practices of the department.

Knowledge sharing and intellectual assistance to the nearby govt. and aided schools , to inculcate scientific temper to the students from the locality especially from the fisherman community .

53. Uniqueness of the department (Maximum 300 words)

Brief description of the Uniqueness of the department

Young and vibrant teaching faculties
Department book bank and scholarships for meritorious students donated by department alumni

54. Action Plan

Details of Action Plan and implementation

- Entire class rooms to be converted in to fully equipped smart rooms
- More UG students being qualified for jam and other competitive exams
- Invited lectures by prominent alumni of the department working in premier research institutions
- MoUs with premier institutions
- Encouraging faculties to attend fdp programmes
- Organizing of national conferences .
- Enhancing the department library collections
- Motivational visit to csir labs and chemical industries
- To strengthen alumni so as to contribute academically and financially for the upliftment of the department

55. Feedback system and Analysis (Maximum 500 words)

Brief report of Feedback system and Analysis

Centralised feedback system governed by Internal Quality Assurance Cell of college.

Department takes feedback regularly from students and it improves the teaching and learning methods of faculties.

56. Green Initiatives (Maximum 500 words)

Brief description of the Green Initiatives of the Department

Implementation of Semimicro analytical technique for doing practicals

57. SWOC Analysis of the department

Strengths
<ul style="list-style-type: none"> • Spacious and Full-fledged UG laboratory • Multitalented students • Strong alumni • Students going for higher education • 100% permanent posting of teaching faculties
Weaknesses
<ul style="list-style-type: none"> • No subsidiary lab • No post-graduation course
Opportunities
<ul style="list-style-type: none"> • Can upgrade to PG and research department
Challenges
<ul style="list-style-type: none"> • Increasing number of students – high student- teacher ratio • Lack of skilled attenders

- Background of students-most of them are from educationally backward fisherman community
- Drop out of girl students due to marriage
- Limited lab facilities based on revised syllabus

58. Updated Documents kept in the department

Sl No	Documents	Yes	No
1	Self Appraisal of TS and NTS	Yes	
2	Time table (Individual and Department)	Yes	
3	Bio-data record of students	Yes	
4	Stock Register	Yes	
5	Maintenance register	Yes	
6	Attendance register of students	Yes	
7	Tutorial/mentor record	Yes	
8	CV of faculty	Yes	
9	Alumni details	Yes	
10	Teaching Plan & Teaching schedule	Yes	
11	Syllabus	Yes	

12	Structured feed back	Yes	
13	Non structured feed back	Yes	
14	Monthly/Weekly academic record	Yes	
15	Any Other (Specify)		

59. Other Information

Any Other Information

Name and Signature of HoD

Name and Signature of Principal



THE MUSLIM EDUCATIONAL SOCIETY, CALICUT

ACADEMIC & ADMINISTRATIVE AUDIT
FOR ARTS & SCIENCE COLLEGES

AAA PROFORMA FOR DEPARTMENTS

(FORM No. 2)

ACADEMIC & ADMINISTRATIVE AUDIT FOR ARTS & SCIENCE COLLEGES

PROFORMA FOR DEPARTMENTS – (FORM No.2)

(Fill carefully in the given MS Word format. Add more columns if needed)

Academic Year : 2019-20

Name of the Department : Applied Geology

1. Socio Economic Profile

Sl No	Programme	Batch	Total No of students		Minorities		OBC		SC/ST		From Other state		Divyangjan		Transgender if any
			Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	
	BSc	I year	18	21	8	13	10	15	3	3	Nil	Nil	Nil	Nil	Nil
		II Year	13	23	6	15	8	17	1	6			Nil	Nil	Nil
		III Year	15	22	12	18	12	18	-	8	-	1	Nil	Nil	Nil
	MSc	I Year	5	8	0	2	4	5	1	1	Nil	Nil	Nil	Nil	Nil
		II Year	1	10	1	1	0	9	Nil	Nil	Nil	Nil	Nil	Nil	Nil

2. Faculty details including Guest/Visiting Faculty

Sl No	Name	Permanent/temporary/ Visiting	Designation	Qualification	Experience in this Institution	Total Experience
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	Dr.V.A.Ayisha	Permanent	Assoc. Professor	MSc, PhD	30	30
	Dr.V.K.Brijesh	Permanent	Asst. Professor	MSc, PhD	11	11
	Dr.C.Sreejith	Permanent	Asst. Professor	MSc, PhD	9	9
	Dr.V.Santhosh	Permanent	Asst. Professor	MSc, PhD	9	9
	P.K.AbdulNafih	Permanent	Asst. Professor	MSc	9	9
	Dr.K.S.Arun Kumar	Permanent	Asst. Professor	MSc, PhD	8	8
	Dr.M.Nithya	Permanent	Asst. Professor	MSc, PhD	5	5

3. Number of teachers awarded Ph.D. during the year: Nil
 4. No of teachers registered & pursuing Ph.D.:- 1
 5. Actual work load:- 114
 6. Number of Sanctioned Teaching Posts :7
 7. Current Vacancy: Nil
 8. Details of Supporting Staff

Sl No	Name	Qualification	Designation	Experience	Permanent/Temporary
1	Mohammed,P		Lab Attender		Permanent

9. Programmes offered by the department (UG and PG):

Sl No	Programme	Batch	No of Students Admitted	Current Strength	Student-Teacher Ratio	Drop out ratio
	BSc Geology	I year	39	38	20:1	39:1
		II Year	39	35	20:1	39:4
		III Year	39	37	20:1	39:2
	MSc Applied Geology	I Year	13	13	10:1	Nil
		II Year	11	11	10:1	Nil
	PhD		11		2:1	Nil

10. Demand Ratio and Unit Cost

Sl No	Programme	Unit Cost of Education	CAP Admission Eligibility Mark %		Demand ratio of General Merit Seats	Demand ratio of Community Quota Seats	Demand Ratio of Management Quota Seats
			Top Rank	Last Rank			
1	BSc Geology		98.83(General)	63.5(ST)	1:41.52	1:28	1:10
2	MSc Geology		86.7(General)	64(Management)	1 : 6.917	1:17	1:5

11. Details of Value Added Courses/Programmes Conducted by the department

Sl no	Value Added Courses/Enrichment Programmes	Duration	Names of Teachers Engaged.	Number of students participated
1	Statistical sedimentology	1 Month	Abdul Nafih P K	11

12. Result Analysis

Sl. No	Programme	Number of students appeared	Number of students passed (Eligible For Higher Studies)	Percentage of pass	Grade					Result Analysis
					A+	A	B	C	D	
1	BSc	34	26	70.59	-	3	8	7	2	
2	MSc	13	13	84.6	-	-	9	2		

13. University Rank/Positions if any

Sl. No.	Programme	Name of the student	Rank/ Position (upto 10 th position)
1	MSc	Amritha, MR	1st

2	MSc	Amitha, MR	2 nd

14. Add on, Certificate, Diploma programs offered by department

Sl No	Programme	Certification by	No of students participated	No of students appeared for the examination	Pass %	Fee details
1	Disaster Management	College	24	24	100	NIL

15. Programme outcome details

Sl No	Programme	Programme Outcome (PO)	Programme Specific Outcome (PSO)	Analysis
1	B Sc Geology	<p>PO1. Critical Thinking: Take informed actions after identifying the assumptions that frame our thinking and actions, checking out the degree to which these assumptions are accurate and valid, and looking at our ideas and decisions (intellectual, organizational, and personal) from different perspectives.</p> <p>PO 2. Problem Solving: Understand and solve problems of relevance to society to meet the specified needs using the knowledge, skills and attitudes acquired from humanities/ sciences/mathematics/social sciences.</p> <p>PO 3. Effective Communication: Speak, read, write and listen clearly in person and through electronic media in English and in one Indian language, and make meaning of the world by</p>	<p>PSO1. Understand the nature and basic concepts of Physical geology, Geomorphology, and Historical Geology.</p> <p>PSO2. Understand the physical, chemical and optical characteristics of rocks and minerals, their economic aspects and distribution.</p> <p>PSO3. Understand the structural aspects of rock formations, global tectonics and earth dynamics.</p> <p>PSO4. Understand the applications of geoscience in environmental planning and</p>	PSOs are structured in such a way that by the end of the program, students are able to attain the Program Outcomes.

		<p>connecting people, ideas, books, media and technology.</p> <p>PO 4. Effective Citizenship: Demonstrate empathetic social concern and equity centred national development, and the ability to act with an informed awareness of issues and participate in civic life through volunteering.</p> <p>PO 5. Environment and Sustainability: Understand the issues of environmental contexts and sustainable development.</p> <p>PO 6. Self-directed and Life-long Learning: Acquire the ability to engage in independent and life-long learning in the broadest context socio-technological changes.</p>	management.	
2	M Sc Applied Geology	<p>PO1. Critical Thinking: To have the capacity to take informed actions so as to help the society in successful decision making.</p> <p>PO 2. Problem Solving: Understand and solve problems of relevance to society to meet the specified needs using the knowledge, skills and attitudes acquired from geological sciences.</p> <p>PO 3. Effective Communication: Speak, read, write and listen clearly in person and through electronic media in English and in one Indian language, and make meaning of the world by</p>	<p>PSO1. Understand the advanced concepts of various branches of Geology and its applications.</p> <p>PSO2. Understand the modern tools of geospatial technology, geochemistry and computer-based simulations and its applications in geosciences.</p> <p>PSO3. Understand the role of geological processes in natural resource as well as disaster management.</p>	PSOs are structured in such a way that by the end of the program, students are able to attain the Program Outcomes.

		<p>connecting people, ideas, books, media and technology. It is equally important to transact the results of research carried out as a part of the program.</p> <p>PO 4. Effective Citizenship: Demonstrate empathetic social concern and equity centred national development, and the ability to act with an informed awareness of issues and participate in civic life through volunteering.</p> <p>PO 5. Environment and Sustainability: Understand the issues of environmental contexts and sustainable development.</p> <p>PO 6. Self-directed and Life-long Learning: Acquire the ability to engage in independent and life-long learning in the broadest context socio-technological changes.ogy</p>	<p>PSO4. Understand the basics of geological research and develop a capability for scientific writing and effective decision making.</p>	

17. Details of Courses of other departments (Complementary, Language etc.) offered by the department (Including open Course)

Sl No	Courses including practical	Name of faculty engaged	Details of University result published - previous batch		
			Batch	Pass percentage	Name of faculty engaged that batch
1	V Sem B.Sc Geology GL5D01 Understanding the Earth	Dr. V. Santhosh	2017-2020	100	Dr. V. Santhosh

PO1. a. Class engagement details of the department (Odd Sem)

Sl No	Course (including OC, courses for programmes of other departments)	Total hours allotted	Total hours engaged	Extra hours taken in addition to total allotted hours	Remedial Classes taken

I Sem B.Sc. B.Sc. Geology Essentials of Geology	64	58	5	3
III Sem B.Sc Geology Crystallography and Mineralogy	48	46	6	3
GEO3B06(P) Crystallography	32	34	10	2
V Sem B.Sc Geology GL5B09 Stratigraphy and Physiography of India	32	34	4	2
V Sem B.Sc Geology GL5B10 Indian Geology	32	30	5	2
V Sem B.Sc Geology GL5B11 Igneous Petrology	48	44	6	2
V Sem B.Sc Geology GL5B12 Sedimentology	48	44	6	3
V Sem B.Sc Geology GL5B13 Metamorphic Geology	48	46	4	4
V Sem B.Sc Geology GL5B14(P) Field Description of Rocks	64	56	6	4
V Sem B.Sc Geology GL5B15(P) Petrography	64	54	8	6
V Sem B.Sc Geology GL5D01 Understanding the Earth	32	30	2	2
V Sem B.Sc Geology GL5B16(Pr) Study Tour	32	48	0	0
MSc Applied Geology				
I Sem M.Sc. GEL 1C 01 Physical Geology & Geomorphology	64	64	2	0
I Sem M.Sc GEL 1C 02 Structural Geology & Geotectonics	80	80	2	0
GEL 1C 03 Geoinformatics	64	64	2	4
GEL 1C 04 Stratigraphy & Indian Geology	64	62	3	0

	GEL 1L 01 Geomorphology, Structural Geology, Geoinformatics	96	90	4	0
	GEL 1F 01 Study Tour	36	56	0	0
	III Sem M.Sc. GEL 3C 09 Exploration Geology	96	89	4	4
	GEL 3C 10 Igneous & Metamorphic Petrology	96	92	4	4
	GEL 3E01 Remote sensing & geographic Information System	80	78	3	2
	GEL3C11PExploration Geology, Igneous and Metamorphic Petrology	128	126	4	2

18 b. Class engagement details of the department (Even Sem)

Sl No	Course (including OC, courses for programmes of other departments)	Total hours allotted	Total hours engaged	Extra hours taken in addition to total allotted hours	Remedial Classes taken
	II Sem B.Sc. B.Sc. Geology GEO2B03 Dynamic Geology and Geoinformatics	64	62	2	2
	IV Sem B.Sc Geology GEO4B07 Optical and Descriptive Mineralogy	56	56	4	2
	VI Sem B.Sc Geology GL6B17 Structural Geology and Geotectonics	48	48	4	3
	VI Sem B.Sc Geology GL6B18 Palaeontology	48	48	3	2
	VI Sem B.Sc Geology GL6B19 Ore Forming Processes	48	48	2	2
	VI Sem B.Sc Geology GL6B20 Indian Mineral Deposits	48	48	2	2
	VI Sem B.Sc Geology GL6B21(P)	64	62	14	4

	Structural and Economic Geology				
	VI Sem B.Sc Geology GL6B23(Pr) Study Tour	32	46	16	0
	MSc Applied Geology				
	II Sem M.Sc. GEL 2C 05 Crystallography & Mineralogy	64	60	4	2
	II Sem M.Sc. GEL 2C 06 Economic Geology	64	56	6	4
	II Sem M.Sc. GEL 2C 07 Hydrogeology	64	64	2	2
	II Sem M.Sc. GEL 2C 08 Applied Palaeontology & Sedimentology	80	80	0	0
	II Sem M.Sc. GEL 2L 02 Crystallography, Mineralogy, Economic Geology, Hydrogeology, Palaeontology & Sedimentology	96	96	4	2
	II Sem M.Sc. GEL 1F 02 Study Tour	32	46	0	0
	GEL 4C 12 Economic Geology	96	90	4	2
	GEL 4C 13 Geochemistry & Sedimentology	96	90	6	2
	GEL 4E 03 Environmental Geology	80	80	0	0
	GEL 4C 14 P Economic, Geochemistry & Sedimentology	80	86	4	2
	GEL 4C 15 Pr Project/Dissertation	48	34	16	0
	GEL 4C 16 Pr combined field mapping	50	75	15	0

18 a. Continuous Internal Evaluation Details (Odd Sem)

Sl No	Course (including courses for programmes of other departments)	Number of students having shortage of attendance	Number of assignments given to each student	Number of Seminars presented By Each student	Number of Internal Examinations Conducted	No of Projects given	Number of Students failed in internal evaluation	Number of Students grievances received	No of grievances rectified
	I Sem B.Sc. B.Sc. Geology Essentials of Geology	0	1	1	2	0	0	0	0
	III Sem B.Sc Geology Crystallography and Mineralogy	2	1	1	2	0	0	2	2
	GEO3B06(P) Crystallography	0	1	1	1	0	0	0	0
	V Sem B.Sc Geology GL5B09 Stratigraphy and Physiography of India	2	1	1	2	0	2	2	2
	V Sem B.Sc Geology GL5B10 Indian Geology	2	1	1	2	0	0	1	1
	V Sem B.Sc Geology GL5B11 Igneous Petrology	2	1	1	2	0	0	2	2
	V Sem B.Sc Geology GL5B12 Sedimentology	2	1	1	2	0	0	1	1
	V Sem B.Sc Geology GL5B13 Metamorphic Geology	2	1	1	2	0	0	1	1
	V Sem B.Sc Geology GL5B14(P)	0	1	0	1	0	0	0	0

	Field Description of Rocks								
	V Sem B.Sc Geology GL5B15(P) Petrography	0	1	0	1	0	0	0	0
	V Sem B.Sc Geology GL5D01 Understanding the Earth	0	1	-	1	0	0	0	0
	V Sem B.Sc Geology GL5B16(Pr) Study Tour	0	1	0	0	0	0	0	0
	I Sem M.Sc. GEL 1C 01 Physical Geology & Geomorphology	0	1	1	2	0	0	0	0
	I Sem M.Sc GEL 1C 02 Structural Geology & Geotectonics	0	1	1	2	0	0	0	0
	GEL 1C 03 Geoinformatics	0	1	1	2	0	0	0	0
	GEL 1C 04 Stratigraphy & Indian Geology	0	1	1	2	0	0	0	0
	GEL 1L 01 Geomorphology, Structural Geology, Geoinformatics	0	1	1	2	0	0	0	0
	GEL 1F 01 Study Tour								
	III Sem M.Sc. GEL 3C 09	0	1	1	2	0	0	0	0

	Exploration Geology								
	GEL 3C 10 Igneous & Metamorphic Petrology	0	1	1	2	0	0	0	0
	GEL 3E01 Remote sensing & geographic Information System	0	1	1	2	0	0	0	0
	GEL3C11PExploration Geology, Igneous and Metamorphic Petrology	0	1	1	2	0	0	0	0

19 b. Continuous Internal Evaluation Details (Even Sem)

Sl No	Course (including courses for programmes of other departments)	Number of students having shortage of attendance	Number of assignments given to each student	Number of Seminars presented By Each student	Number of Internal Examinations Conducted	No of Projects given	Number of Students failed in internal evaluation	Number of Students grievances received	No of grievances rectified
	II Sem B.Sc. B.Sc. Geology GEO2B03 Dynamic Geology and Geoinformatics	0	1	1	2	0	0	0	0
	IV Sem B.Sc Geology GEO4B07 Optical and Descriptive Mineralogy	0	1	1	2	0	0	0	0
	VI Sem B.Sc Geology GL6B17 Structural Geology and Geotectonics	1	1	1	2	0	0	0	0
	VI Sem B.Sc Geology GL6B18 Palaeontology	1	1	1	2	0	0	0	0

VI Sem B.Sc Geology GL6B19 Ore Forming Processes	1	1	1	2	0	0	1	1
VI Sem B.Sc Geology GL6B20 Indian Mineral Deposits	1	1	1	2	0	0	0	0
VI Sem B.Sc Geology GL6B21(P) Structural and Economic Geology	1	1	1	2	0	0	0	0
VI Sem B.Sc Geology GL6B23(Pr) Study Tour	0	0	0	0	1	0	0	0
MSc Applied Geology								
II Sem M.Sc. GEL 2C 05 Crystallography & Mineralogy	0	1	1	2	0	0	0	0
II Sem M.Sc. GEL 2C 06 Economic Geology	0	1	1	2	0	0	0	0
II Sem M.Sc. GEL 2C 07 Hydrogeology	0	1	1	2	0	0	0	0
II Sem M.Sc. GEL 2C 08 Applied Palaeontology & Sedimentology	0	1	1	2	0	0	0	0
GEL 2L 02 Crystallography, Mineralogy, Economic Geology, Hydrogeology,	0	1	1	2	0	0	0	0

	Palaeontology & Sedimentology								
	II Sem M.Sc. GEL 1F 02 Study Tour	0	0	0	0	0	0	0	0
	GEL 4C 12 Economic Geology	0	1	1	2	0	0	0	0
	GEL 4C 13 Geochemistry & Sedimentology	0	1	1	2	0	0	0	0
	GEL 4E 03 Environmental Geology	0	1	1	2	0	0	0	0
	GEL 4C 14 P Economic, Geochemistry & Sedimentology	0	1	1	2	0	0	0	0
	GEL 4C 15 Pr Project/Dissertation	0	1	1	2	0	0	0	0

20. Reforms introduced in Continuous Internal Evaluation (CIE)

Brief description of Reforms introduced in Continuous Internal Evaluation (CIE)
All students were given chances of presentations on assigned topics, class tests of short duration were conducted periodically, each tutors were given specific number of students, periodic monitoring of the tutor and HoDs were done to find out their problems if any, and measures like personal counseling were done in certain cases.

21. Tutorial System

Sl No	Class	Tutor	Total No. of Tutorial Hours during the year	Major Discussions in the Tutorial Hour	Tutorial Report Submitted or Not
1.	II year BSc	Dr. V. Santhosh	30 Hrs	Academic, administrative, family, social and emotional problems	Yes

				of the wards	
2.	II year MSc	Dr. K.S. Arunkumar	25 Hrs	Academic, administrative, family, social and emotional problems of the wards	Yes
3.	I MSc	Dr.M. Nithya	25 Hrs	Academic, administrative, family, social and emotional problems of the wards	Yes
4	III BSc	Dr. C. Sreejith	30 Hrs	Academic, administrative, family, social and emotional problems of the wards	Yes
5	II BSc	Abdul Nafih P.K	30 Hrs	Academic, administrative, family, social and emotional problems of the wards	Yes

22. Details of Bridge Courses Conducted and its Outcome

Total No of Classes Conducted	No of students attended	No of Students Benefitted	Remarks
10	17	17	Bridge Course For First UG Geology-Museum Visit

23. Details of Remedial Courses Conducted and its Outcome

Total No of Classes engaged	No of students attended	No of Students Benefitted	Outcome
I BSc	10	10	Academic improvement
II BSc	10	10	Academic improvement

III BSc	5	5	Qualified for higher education
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24. Details of Programmes for Advanced learners and Outcome

Sl. No.	Programme	No of students attended		No of Students Benefitted	Outcome
1	WWS	9	9		Changes in Personality and Communication Skill Career Orientation and Awareness.
2	Flip Teaching	4	4		Self-Discipline Improved Improvement in communication and presentation skill Ability to handle class rooms Improvement in learning and academic processes Leadership Quality Improved

25. Details of Programmes for Slow learners and Outcome

Sl. No.	Programme	No of students attended		No of Students Benefitted	Outcome
1	Remedial classes	6	6		Improved academic attitude and Class room Participation Improvement in practical and Theory Examination results
2	Personal Counseling	6	6		Improvement in studies and Personality
3	Parents Meeting	6	6		Improvement in studies and Personality

26. Research Output of the Department.

Sl NO	Name of Research Guide.	Name of Research Centre	No of Ph.D. awarded this year	Number of Current Research Scholars	Details of Papers published in connection with the research topic	Details of Papers presented in seminars/Workshops in connection with the research topic
1.	Dr. V.A. Ayisha	M.E.S. Ponnani college, Ponnani.	-	5	-	-
2.	Dr.V.K. Brijesh	M.E.S. Ponnani college, Ponnani.	-	-	-	-
3.	Dr. C. Sreejith	M.E.S. Ponnani college, Ponnani.	-	1	-	-
4.	Dr. V. Santhosh	M.E.S. Ponnani college, Ponnani.	-	1	-	<p>1. Pramod A. K. and Santhosh V. "ASSESSMENT OF WATER QUALITY VARIATIONS IN KUNNAMANGALAM BLOCK, KOZHIKODE, NORTHERN KERALA". International Seminar on Current Status and Challenges for Conservation and Sustainable use of Biodiversity – ISCCSB 2020, 22-24 January, 2020. Department of Zoology, SreeNarayana College, Kollam, Kerala, India.</p> <p>2. V.Santhosh and D. Padmalal. "TEXTURE AND GEOCHEMISTRY OF THE TILE AND BRICK CLAY SEDIMENTS OF CHALAKUDY AND PERIYAR RIVER BASINS, CENTRAL KERALA." International Seminar on Current Status and Challenges for</p>

						<p>Conservation and Sustainable use of Biodiversity – ISCCSB 2020, 22-24 January, 2020. Department of Zoology, SreeNarayana College, Kollam, Kerala, India.</p> <p>3. Santhosh V. Arunkumar K. S. and Pramod A. K. “<i>HYDROCHEMISTRY OF THE RIVER BASINS OF CENTRAL KERALA: AN ANTHROPOGENIC PERSPECTIVES</i>”. III Indian National Groundwater Conference – INGWC-2020. 18-20 February 2020, Centre for Water Resources Development and Management (CWRDM), Kozhikode, Kerala.</p>
5.	Dr. K.S. Arun Kumar	M.E.S. Ponnani college, Ponnani.	-	2	<p>Heavy Metal Accumulation in Sediments of a Tropical Estuary: A Case from the Southwest Coast of India”. International Journal of Lakes and Rivers (IJLR), Volume 13, Number 1</p>	<p>1. “<i>POLLUTION OF TROPICAL ESTUARINE SYSTEMS: HEAVY METAL CONTAMINATION IN THE SEDIMENTS OF ESTUARINE SYSTEMS AROUND THIRUVANANTHAPURAM, SOUTHERN KERALA.</i>” Proceedings of International Seminar on Current Status and Challenges for Conservation and Sustainable Use of Biodiversity. SN College, Kollam; Issue: 1, Vol: 1, page 28, 2020.</p> <p>2. “<i>TEXTURE AND GEOCHEMISTRY OF THE TILE AND BRICK CLAY SEDIMENTS OF CHALAKUDY AND PERIYAR RIVER BASINS, CENTRAL KERALA</i>”. Proceedings of International Seminar on Current Status and Challenges</p>

					(2020), pp. 57-71.	for Conservation and Sustainable Use of Biodiversity. SN College, Kollam; Issue:1, Vol: 1, page 48, 2020.
6.	Dr. M. Nithya	M.E.S. Ponnani college, Ponnani.	-	-	-	-

27.Details of Internship, Apprentice ship, Industrial Visit, Study tour,OJT, Student Projects etc

Sl No	Programme	Details Students Projects	Details of Internship, Apprentice ship, Industrial Visit, OJT	No of students not submitted report in time.
1	Field work / Study Tour	II Sem M.Sc. Applied Geology	20.01.2020 to 04.02.2020, 13 students	0
2.	Study tour/Field work VI Sem BSc Geology	Study tour/Field work report submission	No. of students-35 Time period: 28-01-2020 to 07-02-2020 Covering the states of Kerala, Tamilnadu and Andrapradesh	NIL

28.Details of enrolment in MOOC,and SWAYAM, other on- line courses of teachers and students

SINo	Online Course	Number of teachers attended	Number of teachers received certificates	Number of students attended	Number of students received certificates
1.	Short course on Fluids in the Earth (with 5 credits) Università di Milano – Bicocca, Milano, Italy 13.09.2019	2	2		
2.	Remote Sensing & GIS Technology and Applications for University Teachers & Government Officials conducted by IIRS, Dehradun, ISRO, Govt. of India,	1	1		
3.	Science Leadership Workshop. Central University of Punjab	1	1		
4.	e-Training on "Course on Marine	1	1		

	Geochemistry, Minerology & Sedimentology, GSI Mangalore				
5.	Short term faculty development programme on "Implementation of Information and Communication Technology in Teaching (MOOC), CUSAT and KSHEC Govt. of Kerala.	1	1		
6.	Global Navigation Satellite Systems and Applications	1	1		
7.	55 th IIRS course on Web GIS- Geo-visualization and online mapping	2	Yet to get the certificates	1	Yet to get the certificates
8.	50 th IIRS course on Basics of "Remote Sensing, Geographical Information System and Global Navigation Satellite System	0		30	
9.	46 th IIRS course on Advances in Remote Sensing and geospatial technologies for Disaster early warning, monitoring and mitigation	0		2	
10.	21 days online GIS Training programme Using QGIS. Conducted by Central University, Karnataka	1	1		

29. Student Centric and Innovative teaching methods

Student Centric teaching & Learning and Innovative methods introduced by the Department.

Innovative Student Centric Learning methodologies:

- Student-teacher ratio is optimally maintained to facilitate student centric learning environment, which gives further scope for or provides participative and experimental learning.
- One-on-one tutoring and small group instruction reintroduce students to decoding and rebuilding skills and knowledge that they learn in earlier

classes.

i) Experiential learning

- The final year UG/PG students work as teaching assistant for conducting laboratory classes for their juniors, which gives them an experience in the academics and improves their understanding in the subject.
- The students are actively involved in organising various extra and co-curricular events which help them in developing their management skills. Special programs on Science Day, Environmental Day etc. are also conducted by them.
- In order to pursue the interest in their area of specialization, students 'clubs & committees are functional. Some of the committees are Cultural committee Sports Committee, Mess Committee, Alumni Committee, Placement committee, Industry Interaction Committee and Debate Committee
- Frequent interactions with the experts from industry have been arranged to share their experience with the students which prepares the students for the real time job scenario.
- Field work forms an integral component of both UG and PG programmes in Geology and students are actively involved in experiential learning
- Internships are encouraged for both UG and PG programmes.

ii) Participative learning

- Students divided into groups are assigned to read various articles and/or write ups of utmost importance both academically and practically and then asked to analyze and prepare notes on it. This provides them with an opportunity to conceptualize the theoretical aspects. It helps them in reflective thinking, problem solving and to logically question what was taught.
- Participative learning is invoked among students by undertaking group activities such as project assignments, case-study analysis which leads to participative learning. The learning outcomes of these activities are discussed and shared with the entire class.
- They are also taken to field/industry/academia visits in different parts of India. It exposes them to the world of practical knowledge to hone their skills and abilities.

iii) Problem solving methodologies

- The university adopts student centric learning method. Along with the classroom teaching and laboratory experiment based learning, students are also involved in minor field-based group projects. These projects help them towards enhancing the real life problem solving abilities.
- The university further follows problem solving methodologies by challenging the students with assignments on regular basis to check their level of understanding on the subject. Moreover, quizzes are held from time to time to keep the students in a competitive environment and to check the overall progress of the class.

- Students carry out tasks like mind mapping on specific topics which helps them to widen their thinking capabilities.

30. Scholarship, Free ship, Financial Support such as Lap Top, free uniform, Bus fee waiver, Hostel fee etc.

Sl No	Name of the scholarship, Free ship, Financial Support	Number of students Receiving	Amount
1	Tapodhan Scholarship	5	36,000
2	Postmetric Scholarship	2	7000
3	Central Sector Scholarship	1	20000
4	CH Mohammed Koya Scholarship	9	6000
5	Fishermen Scholarship	1	6400
6	KSCSTE Prathiba Scholarship	1	100000

31. Details of Class PTA Conducted

Sl No	Programme	Number of Class PTA Conducted with Dates	Number of Parents Participated	No of parents not participated

32. Details of Department/Class Alumni organised

Sl No	Dept./Class Alumni.	Date	Number of Alumni Participated	Number of Faculty members participated	Remarks including Alumni Support
1	Geology	08/02/2020	28	4	A general body meeting of Geology Alumni Association, MES Ponnani College (GEMS) was held at Seminar Hall, Dept. of Geology

33. Details of Placement and Recruitment drives (Both internal & External)

Sl No	Details of Placement	Number of Students Participated	Number of Students placed with Details	Remarks

34. Progression to Higher Studies

Sl No	Completed programme in this college	Progression	Number of Students	Remarks
	BSc 34(38)		24 to MSc	
	MSc 13 (13)	1 employed		

35. Details of Competitive Exams(NET/SLET/SET/UPSC/PSC/Civil Service etc)

Sl No	Name of Competitive Examination	Number of Students Appeared	Number of Students Selected with details	Remarks
1	UGC CSIR	10	Anjana.T.P	

36. Details of MoU

Sl No	MoU with	Period of MoU	Activities in MoU	Activities conducted during the year
1	Dept. of Geology, DHOArts and Science College, Pookkarathara	2017-2022	Joint research projects and publications, Faculty and student exchanges based on reciprocity, reciprocal placement of students in paid internships and coops, Joint conferences and workshops	
2	Dept. of Geology, KR's SN College, Valanchery	2017-22	Joint research projects and publications, Faculty and student exchanges based on reciprocity, reciprocal placement of	

			students in paid internships and coops, Joint conferences and workshops	
3	Dept. of Geology, Assabah college, Valayamkulam	2017-22	Joint research projects and publications, Faculty and student exchanges based on reciprocity, reciprocal placement of students in paid internships and coops, Joint conferences and workshops	
4	Dept. of Geology, Geomarine Solutions, Ponnani	2017-22	Joint research projects and publications, Faculty and student exchanges based on reciprocity, reciprocal placement of students in paid internships and coops, Joint conferences and workshops	
5	Dept. of Geology, NSquare Management and Environmental Solutions, Edappal	2017-22	Joint research projects and publications, Faculty and student exchanges based on reciprocity, reciprocal placement of students in paid internships and coops, Joint conferences and workshops	
6	Dept. of Geology, GEMS College, Ramapuram	2017-22	Joint research projects and publications, Faculty and student exchanges based on reciprocity, reciprocal placement of students in paid internships and coops, Joint conferences and workshops	
7	Dept. of Geology, Christ College, Irinjalakuda	2017-22	Joint research projects and publications, Faculty and student exchanges based on reciprocity, reciprocal placement of students in paid internships and coops, Joint conferences and workshops	

37. Collaborations, Linkages, Exchange programmes etc.

Sl No	Collaboration/ programme	Linkage/ Exchange	Sharing of Resources	Activities	Activities conducted during the year-

38. Consultancy

Sl No	Consultancy details	Activities	Total Fund generated	Share of consultant	Share of department	Share of College
1	Geophysical exploration	Bore well siting				
2	Member, expert committee to evaluate the proposed impacts of mining at Chengodu Mala, Kozhikkode	Field visit, interaction with local population, report writing	Free rendering			

39. Details of Seminars, Workshops, FDP, Training Programmes, Skill enrichment programmes, Fests, camps, invited talks, Association activities etc. organised by the dept.

Sl No	Title of the programme	Dates	No of Participants		Funding Agency With fund sanctioned	Fund generated from any other sources	Total funds received
			From college	From Outside			
1	Understanding ArcGIS, Workshop Under the Bhuvisamvad Program of Geological Survey of India	5 th & 9 - 12 October 2019	120	Nil	Nil	Nil	NIL
2	Gt.Aide Training , Workshop Under the Bhuvisamvad Program of	07.12.2019	60	20	Nil	Nil	NIL

	Geological Survey of India						
3	Aventurine 19	18 th , 19 th and 20 th of October, 2019	130	60	Nil	Nil	Nil
4	Ozone Day	01.10.2019	100	Nil	Nil	Nil	Nil

40. Details of Extension, Out-reach programmes organised

Sl No	Programme	Dates	Activities	Number of students participated	No of Teachers Participated
1	Museum visit	3.12.2019	Exhibition & Awareness class	50	3
2	Museum visit	12.12.2020	Exhibition & Awareness class	100	4
	Museum visit	30.01.2020	Exhibition & Awareness class	90	4

41. Publications of Faculty in CARE journals, Books, Book Chapters, Popular articles etc.4

Sl No	Title of Article	Sole Author/First author/ Co author	Name of Journal/Book/ periodical	Publisher	ISSN/ISBN number, Volume, Year of publication
1.	Heavy Metal Accumulation in Sediments of a Tropical Estuary: A Case from the Southwest Coast of India”	Arunkumar K.S	International Journal of Lakes and Rivers (IJLR).		Volume 13, Number 1 (2020), pp. 57-71 ISSN 0973-4570

42. Publications of Students (Books, Book Chapters, Articles, by-lines, Stories, Poems etc.

Sl No	Nature of publication	Name of author	Name of Journal/Book/ periodical/News paper etc.	Publisher	Date of Publication, Volume, Page etc.

43. Publications of Department (Journal, Magazines, Manuscripts, Wall magazine, e-magazines, News letters, etc.)

Sl No	Type of Publication	Name of Publication	Publication Date	Remarks, if any

44 Award/Recognitions received by the students and teachers

Sl No	Name of Awardees	Student/faculty	Awarded by	Details of award
	Nandu, MR	Student, MSc 3 rd Sem		KovilanPuraskaram

45. Faculty as Invited speaker, resource persons, paper presenter etc.

Sl No	Name Faculty	Details of Programme	Date	Invited Speaker/Resource person/Paper presenter
1.	Dr. V.K. Brijesh	Thunjathezhuthachan Malayalam University – Orientation Program for First year PG students.(<i>Geology – the science to know the environment</i>)	28.06.2019	Invited Speaker
2	Dr. V.K. Brijesh	International Seminar on “Rebuild Kerala after Floods”(<i>Landslides – facts to be known</i>) EMS Chair, University of Calicut.	08.08.2019	Invited Speaker
3	Dr. V.K. Brijesh	National Seminar on “Exploring Geography through Regional Perspective”(<i>Exploring Geography – the Geoinformatics way</i>) Dept. of Geography, Govt. College Tholannur, Palakkad.	07.11.2019	Invited Speaker
4	Dr. V.K. Brijesh	National Seminar on Changing Paradigms in Historical Writing. <i>Geomythology – Identifying Recorded Events in a Geological Background</i> Dept. of History. Rajiv Gandhi Memorial Govt. College	04.12.2019	Resource Person

		Attappady, Palakkad		
5	Dr. V.K. Brijesh	National Conference on Applications of Geospatial Technologies in Management of Natural Resources and Disasters. Centre for Geoinformatics, Gandhigram Deemed to be University, Dindigul. (<i>Preparation and updating of LSG Maps –the OSM way</i>).	18.02.2020	Resource Person
6	Dr.K.S.Arun Kumar	One Day Seminar as a part World Wetland Day Celebrations, St. Gregorios College, Kottarakkara	31-01-2019 2019	Invited Speaker
7	Dr.K.S.Arun Kumar	Wetland Functioning, Biodiversity Conservation and Management with Special Reference to Trichur- PonnaniKole Wetlands.State Wetland Authority of Kerala (SWAK) in Collaboration with University of Calicut, Sree Krishna College, Guruvayoor	27-09-2019	Invited Speaker
8.	Dr.K.S.Arun Kumar	Evolution and Conservation of Wetlands: Special Reference to Kole Wetlands State Wetland Authority of Kerala (SWAK) in Collaboration with University of Calicut SreeNarayana College, Nattika	14-10-2019	Invited Speaker
9	World Wetland Day Celebrations 2019	One Day Seminar as a part World Wetland Day Celebrations St. Gregorios College, Kottarakkara	31-01-2019 2019	Invited Speaker

46. Details of Career guidance, Counselling Class, Soft skill training, Awareness Programmes offered

Sl No	Name of Programme	Dates	No of students participated	Remarks, if any
1	Geology – after graduation	23-01-2020	30	

2	Research as an integral part in Geology	28-01-2020	24	

47. Usage of ICT/LMS by the Department

Sl No	Programme	Name of the Teacher	Type of ICT/E-resource	E-resources Generated
1.	BSc/MSc	Dr. V.A. Aysha	Moodle, MOOC, Pdf notes, powerpoint, google meet, google classroom	pdf notes, powerpoint slides, recorded videos and
2.	BSc/MSc	Dr. V.K. Brijesh	Moodle, MOOC, Pdf notes, powerpoint, google meet, google classroom	pdf notes, powerpoint slides, recorded videos.
3.	BSc/MSc	Dr. V. Santhosh	Pdf notes, powerpoint, google meet, google classroom	pdf notes, powerpoint slides, recorded videos .
4	BSc/MSc	Dr. C. Sreejith	Pdf notes, powerpoint, google meet, google classroom, Webex	pdf notes, powerpoint slides, recorded videos .
5	BSc/MSc	Abdul Nafih P.K	Pdf notes, powerpoint, google meet, google classroom, Webex	pdf notes, powerpoint slides, recorded videos .
6.	BSc/MSc	DR. Arunkumar K.S	MOOC, Moodle, Pdf notes, powerpoint, google meet, google classroom	pdf notes, powerpoint slides, recorded videos .
7.	BSc/MSc	Dr. M. Nithya	Pdf notes, powerpoint, google meet, google classroom, Webex	pdf notes, powerpoint slides, recorded videos .

48. Details of Funding

Sl No	Proposals Submitted	Proposals Sanctioned	Sanctioned Amount	Utilised Amount	Period

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49. Sports Achievement of the departments (from University level onwards)

SI No	Student	Achievement/Award	University/State/National	Remarks
1	Akhil,MD	Kalari	State	
2	Nisham,P	Kalaripayattu, individual	State	Interzone Silver medal
3	AjmalRoshan,P.V	Softball	Interzone University	
4	Irshad Ismail	Thaikondo	University	Interzone Silver medal
5	Sreeram	Softball	University	
6	Arsha and Ranshima	Team (Tug of War)	University	Interzone Bronze medal
7	Hashir P	Individual (Kalaripayattu)	University	Interzone Silver meda

50. Fine Arts and Literary Achievement of the departments (from University level onwards)

SI No	Student	Achievement/Award	University/State/National	Remarks

51. Innovation Ecosystem (Maximum 500 words)

<p>Initiatives of Innovation Ecosystem (IPR, IEDC, IIC, DST-NIMAT, ED club etc.)</p> <ol style="list-style-type: none"> 1. As the first step to shift to more ICT enabled teaching-learning, we have equipped the PG classrooms with more no of power supply slots. This will enable the students to work with their Laptops during the practical hours. 2. The department has initiated the creation of Moodle based courses for all classes. This has helped to reach out to the students in an asynchronous mode, especially during the lock down period.
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52. Best practices of the department (Maximum 500 words)

<p>Brief description of the Best practices of the department.</p> <ol style="list-style-type: none"> 1. Field based studies – Geology is a field subject and the best way to teach the same is to take the students to the field wherever and whenever possible. That is what the department has been practicing. The Field visits are included as a compulsory component in both UG and PG curriculum. Annual field visits are carried out without fail. A combined field mapping programme is held for the M.Sc Applied Geology students during their third semester. Apart from these, students are taken to Ponnani beach, Bharathapuzha River, Biyyam Kayal wetlands, sites of landslides in the eastern part of Malappuram district and varios

hard rock quarries in order to learn the science from nature.

2. ICT enabled learning in PG Classes – The PG class rooms are provided with power supply connection for all students to connect their laptops. All available software is introduced to them as far as theory and practical courses are concerned. This improves their technological skills and thereby empowers their learning.
3. Display of mineral specimens with QR Codes – Apart from a well arranged museum in the department, large specimens of various rocks and minerals are exhibited along the corridors in a systematic way. The QR Codes provided gives a self-explanation to the curious visitors and the students as well.
4. Effective tutorial system incorporating social media tools – Students are encouraged to have a strong and healthy relationship with the teachers by way of providing tutorial hours and extending the same through social media tools like Whatsapp. This helps in developing one-to-one information in all aspects including academics, co-curricular and extracurricular activities.
5. Strong bonding with the alumni – The Alumnae functions as a strong supporting force for the department. They are instrumental in providing computers to the department, establishing scholarships, helping the students in getting placement.

53. Uniqueness of the department (Maximum 300 words)

Brief description of the Uniqueness of the department

The Department of PG studies & Research in Geology is the only department offering B Sc Geology, M Sc Applied Geology in the aided stream. It is a research centre for Geology affiliated to the University of Calicut. Six out of the total seven faculty members are research guides also. The scholars pursuing research in the department are working on a variety of topics from Climate Change, Hard rock Geochemistry, Geospatial technology, Groundwater studies, Coastal erosion and Landslides. Since all the topics have a direct relation to the daily life, the dept. is actively involved in awareness programmes related to natural resources management and natural disaster management. The faculty members are part of the academic bodies of the University viz. Board of Studies and Academic Council. This helps to update the curriculum with relevant academic content and modern technological tools. The dept. maintains a good and strong bond with scientific, corporate and academic institutes with national and international status and thereby helps the students to grow into an ecosystem that will absorb them as far as higher studies and employment are concerned. The department renders its support to the local self-governments in project formulation related to earth resources and environmental aspects.

54. Action Plan

Details of Action Plan and implementation

1. a) A workshop on “Gt Aide (Academy)” will be conducted by the end of June for the faculty members of Geology under the University of Calicut. The programme will be organized by Bhuvisamvad (Geological Survey of India) and Department of Geology as a part of Golden Jubilee celebrations of MES Ponnani College.
1b) First part of the workshop was conducted on 7/12/2019
2. A workshop on petrography for research scholars and college/university faculty members of south India will be conducted
2b) Yet to be implemented due to nonavailability of the resource person and fund.
3. A national/international seminar on “Precambrian Crustal Evolution and Plate Tectonics” will be conducted this year as part of the golden jubilee celebrations. 3b) Yet to be implemented
4. After the success of Aventurine-2018, the department also conducted Aventurine-2019 with the participation of more colleges and universities all over the Kerala. 4b) Successfully conducted with the participation of more colleges and planning to continue the event in the future also.
5. Department decided to offer a certificate course on Geographic Information System from this year onwards. 5b) will be starting soon
6. Using the existing analytical facilities, the department will establish a laboratory for testing water quality parameters and precisely locating open and bore well sites. This will be a consultancy programme and is expected to bring revenue for the department and college. Therefore, a technical assistant has to be appointed. 6b) awaiting support from the management
7. Apply for a BVoc programme in Geoinformatics and Post-Graduate Diploma in Geotechnical Engineering 7b) will be applying when notification comes
8. A consultancy/extension programme will be initiated on Environment Impact Assessment 8b) will be initiated
9. Department will continue to organize special coaching classes for NET/GATE and other competitive examinations. Will be continuing
10. The department proposes to set up a ‘Geopark’ within the campus on southern Indian geology (as we can see in other countries) by displaying the rocks and economic mineral resources. Awaiting fund

55. Feedback system and Analysis (Maximum 500 words)

Brief report of Feedback system and Analysis

Structured feed-back system is in place for the whole college, instituted by the college. Other than that the Class PTA and tutorial system are also working as effective feed-back systems.

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56. Green Initiatives(Maximum 500 words)

<p>Brief description of the Green Initiatives of the Department</p>	<p>A Green Campus is a place where environmental friendly practices and education combine to promote sustainable and eco-friendly practices in the campus. The green campus concept offers the department an opportunity to take the lead in redefining its environmental culture and developing new paradigms by creating sustainable solutions to environmental, social and economic needs of the mankind.</p> <ul style="list-style-type: none"> ➤ Digital Library / E-Learning Centre - Department initiated using more readout material in soft form. Reduce the hard readout material. Use more of e-mail for officially communicating the information needed, online reading etc. ➤ Save Energy TIPS followed by the Department: 1. Activate power management features on your computer and monitor so that it will go into a low power “sleep” mode when you are not working on it. 2. Turn off your monitor when you leave your Table. 3. Activate power management features on your laser printer. 4. Whenever possible, shut down rather than logging off. 5. Turn off unnecessary lights and use daylight instead. 6. Use LED or compact fluorescent bulbs. 7. Keep lights off in conference rooms, classrooms, lecture halls when they are not in use. 8. Use the fans only when they are needed. 9. Unplug appliances not plugged into power strips ➤ Waste water Management/ Rainwater harvesting : Department decided to work in the direction of waste water management particularly in Department class rooms and laboratories. Introducing Water flow restrictors on labs, low water flow toilets and automated urinal flushers to cut down department water use. Department will take all necessary measures to implement waste water management /rain water harvesting. ➤ Ban polythene: Department decided and instructed to students to avoid polythene bags, they are normally used this for carrying foods. Through this program, department can minimize these wastage upto an extent. ➤ Department plan to develop a plan to save energy at the department level with time bound plan to install 10 KW Solar Power Station mandatorily either at the top of college building or in open field. This will enable the institute to have 24x7 power supply. Department will phase out the CFL and conventional light source such as bulbs and tube lights, halogen and mercury street/campus lights. These steps will not only save the money but make the institute self sustainable.
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57. SWOC Analysis of the department

<p>Strengths</p>	
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<ul style="list-style-type: none"> – Possessing research labs with sophisticated facilities (Petrological Microscope, AAS, Remote Sensing & GIS, Hydrogeochemistry) – achieved through FIST, KSCSTE, DoECC, UGC and management funding. – Strong collaboration and academic exchange with IISc, NCESS, GSI, CWRDM, IUCNRM, State Mining & Geology, State Groundwater Department – Commendable alumni support: Besides skill and knowledge sharing from alumni scholarships (Rs.50,000/Annum), infrastructure (Computers, GPS, renovation of class-rooms & labs), placement, etc. – State-of-the-art geological museum which is one of the best in South India – Incorporating ICT in teaching-learning process <p>Six out of seven faculty members are Ph.D., holders and are recognized as research guides. One is about to submit the thesis within a year.</p>
<p>Weaknesses</p> <ul style="list-style-type: none"> – Lack of adequate rooms for research scholars, sample storage, and to establish modern laboratories – Only few number of research journals are available
<p>Opportunities</p> <ul style="list-style-type: none"> – Scope for more research projects and infrastructure development – Revenue generation through consultancy – MoUs and Collaboration with institutions of national and international repute
<p>Challenges</p> <ul style="list-style-type: none"> – Lack of effective time for community outreach and extension programme – Creating awareness on the need of conservation of nearby ecosystems, especially on the <i>Kole</i> wetlands, lacustrine-riverine systems, and near shore coastal environments

58. Updated Documents kept in the department

Sl No	Documents	Yes	No
1	Self Appraisal of TS and NTS	Yes	
2	Time table (Individual and Department)	Yes	
3	Bio-data record of students	Yes	
4	Stock Register	Yes	
5	Maintenance register	Yes	
6	Attendance register of students	Yes	
7	Tutorial/mentor record	Yes	
8	CV of faculty	Yes	
9	Alumni details	Yes	
10	Teaching Plan & Teaching schedule	Yes	
11	Syllabus	Yes	
12	Structured feed back		
13	Non structured feed back		
14	Monthly/Weekly academic record	Yes	
15	Any Other (Specify)		

59. Other Information

Any Other Information

Name and Signature of HoD

Name and Signature of Principal



THE MUSLIM EDUCATIONAL SOCIETY, CALICUT
ACADEMIC & ADMINISTRATIVE AUDIT
FOR ARTS & SCIENCE COLLEGES

AAA PROFORMA FOR INSTITUTION
(FORM No.3)

ACADEMIC & ADMINISTRATIVE AUDIT FOR AIDED COLLEGES

PROFORMA FOR COLLEGE - FORM NO. 3

(Fill carefully in the given MS Word format. Add more columns if needed)

Academic Year 2019-20

- 1) Name of the college : MES Ponnani College
- 2) Name and Experience of Principal : Dr. A.A. Zubair, Assistant Professor of Aquaculture and Fishery Microbiology
- 3) Number of Departments : 9
- 4) Total Number of Programmes: UG: 9 PG: 5
- 5) Newly started Programmes in the current academic year: NIL
- 6) Working Days in this academic year:

Number of	Odd Semester	Even Semester	Total
Working Days			
Teaching Days	90	90	180

7) Whether the college applied for

	Rank/ Status	Applied or Not		Status/Rank
		Applied	Not	
1	NAAC		✓	Accredited with A in 2 nd Cycle (2012)
2	Autonomous		✓	
3	Potential for Excellence		✓	
4	NIRF	✓		

4	ARIIA		✓	
5	Swachh Ranking		✓	
6	IIC star rating		✓	
7	ASAP Star rating		✓	
8	Any Other (Specify)	NA	NA	

8) Total Number of Students:-

Total Students		OBC		OEC		SC/ST		Minorities		Other State students		Divyangjan	
Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
334	1123	216	695	-	-	54	177	190	656	1	3	17	6

Details of Transgenders, if any: Does Not Apply

9) Programme Details

Sl No	Programme level (UG/PG)	Programme	Sanctioned strength	Number of Students admitted	Demand Ratio	Student teacher Ratio	Number of Students discontinued	Drop out ratio	Unit cost of Education
1.	UG	I B.Com	65	65	1:219	48:1	NIL	-	
2.	UG	II B.Com	64	62		48:1	2	3.1	
3.	UG	III B.Com	64	61		48:1	3	4.7	
4.	UG	I BBA	56	56	1:199	40:1	NIL	-	
5.	UG	II BBA	55	55		40:1	NIL	-	
6.	UG	III BBA	50	47		40:1	3	6.0	
7.	UG	I B.Sc. Chemistry	48	46	1:107	45:1	2	4.2	
8.	UG	II B.Sc. Chemistry	49	48		45:1	1	2.0	
9.	UG	III B.Sc. Chemistry	48	40		45:1	8	16.7	
10.	UG	I B.Sc. Computer Science	39	39	-	30:1	NIL	-	

11.	UG	II B.Sc. Computer Science	39	37		30:1	2	5.1	
12.	UG	III B.Sc. Computer Science	39	37		30:1	2	5.1	
13.	UG	I B.Sc. Geology	39	38	1:42	39:1	1	2.6	
14.	UG	II B.Sc. Geology	39	35		39:1	4	10.3	
15.	UG	III B.Sc. Geology	39	37		39:1	2	5.1	
16.	UG	I B.Sc. Physics	49	49	1:88	5:1	NIL	-	
17.	UG	II B.Sc. Physics	49	49		5:1	NIL	-	
18.	UG	III B.Sc. Physics	49	45		5:1	4	8.2	
19.	UG	I B.Sc. Zoology	41	40	1:76	41:1	1	2.4	
20.	UG	II B.Sc. Zoology	40	37		40:1	3	7.5	
21.	UG	III B.Sc. Zoology	39	36		39:1	3	7.7	
22.	UG	I BA Economics	69	69	1:40	48:1	NIL	-	
23.	UG	II BA Economics	66	65		48:1	1	1.5	
24.	UG	III BA Economics	66	63		48:1	3	4.5	
25.	UG	I BA English	47	47	1:89	47:1	NIL	-	
26.	UG	II BA English	45	44		47:1	1	2.2	
27.	UG	III BA English	39	39		47:1	NIL	-	
28.	PG	I M.Com	22	22	1:99	11:1	NIL	-	
29.	PG	II M.Com	22	19		11:1	3	13.6	
30.	PG	I M.Sc. Aquaculture & Fishery Microbiology	13	13	-	4:1	NIL	-	
31.	PG	II M.Sc. Aquaculture & Fishery Microbiology	13	12		4:1	1	7.7	
32.	PG	I M.Sc. Applied Geology	13	13	1:7	7:1	NIL	-	
33.	PG	II M.Sc. Applied Geology	11	11		7:1	NIL	-	
34.	PG	I M.Sc. Physics	12	12	1:154	3:2	NIL	-	
35.	PG	II M.Sc. Physics	12	12		3:2	NIL	-	
36.	PG	I MA Economics	20	20	1:40	7:1	NIL	-	
37.	PG	II MA Economics	19	16		7:1	3	15.8	

10) Number of Certificate, Diploma, Add on Programmes offered by the college:

11) Number of Value added Programmes:

12) Result Analysis

Sl. No.	UG/PG	Programme	Number of students appeared	Number of students passed (Eligible for higher studies)	Pass Percentage	University Rank/ Positions
1.	UG	BSc Chemistry	31	26	84	-
2.	UG	BA Economics	63	48	76.2	-
3.	UG	BA English	30	22	73	6
4.	UG	BBA	46	36	78	10
5.	UG	BCom	55	48	87	-
6.	UG	BSc Computer Science	27	15	56	-
7.	UG	BSc Geology	34	24	71	1
8.	UG	BSc Physics	37	31	84	-
9.	UG	BSc Zoology	32	25	78	-
10.	PG	MSc Aquaculture and Fishery Microbiology	13	13	100	1-10
11.	PG	MA Economics	-	-	-	-
12.	PG	MCom	17	16	94	-
13.	PG	MSc Applied Geology	13	13	100	1-10
14.	PG	MSc Physics	10	9	90	-

13) Details of Teachers

Sl No	Designation	Sanctioned	Currently Working			Vacancy	Teachers with Ph.D.	On Deputation
			Male	Female	Total			
	Assistant Professors	54	25	25	50	4	15	NIL
	Associate Professors	NA	1	3	4	NA	3	NIL

Part Time	1	1	0	1	NIL	NIL	NIL
Guest/Visiting	13	4	9	13	NIL	2	NIL

14) Details of Non-Teaching Staff

Sl No	Post	Sanctioned Number	Currently Working			Paid by Government/ Management	Vacancy, If Any
			Male	Female	Total		
1.	Junior Superintendent	1	1	0	1	Government	Nil
2.	Head Accountant	1	0	1	1	Government	Nil
3.	Senior Clerk	3	0	1	1	Government	2
4.	Clerk	2	0	0	0	Government	2
5.	LD Store Keeper	1	1	0	1	Government	Nil
6.	Librarian	1	0	1	1	Government	Nil
7.	Lib. Assistant	2	1	0	1	Government	1
8.	Mechanic	1	0	1	1	Government	Nil
9.	Lab. Assistant	9	3	0	3	Government	6
10.	Office Assistant	5	2	0	2	Government	3
11.	Technical Assistant	1	0	0	0	Government	1
12.	Computer Assistant	1	0	0	0	Government	1
13.	Clerk (Management)	4	3	1	4	Management	Nil
14.	Lib. Assistant (Management)	1	1	0	1	Management	Nil
15.	Watchman (Management)	2	2	0	2	Management	Nil
16.	Cleaning Staff (Management)	4	1	3	4	Management	Nil

17. Staff welfare

Sl No	Details	Total Staff	Number of staff availed
1	PF	65 (TS – 53, NTS - 12)	55 (TS – 45, NTS – 10)

2	EPF	-	-
3	ESI	-	-
4	Maternity Leave	-	1
5	Paternity Leave	-	1
6	Study Leave	-	-
7	Any Other (Specify)	-	-

16) Scholarship & Free ships

a) E-Grant, Scholarship & Free ship details (Include all Scholarships like Management scholarship, MES, Alumni, PTA, local bodies etc)

Sl No	Name of Scholarship	Number of Students applied	Number of students Sanctioned	Amount Received	Remarks
1.	E grant		295	737500	
2.	Post Metric		30	150000	
3.	Alumni Scholarship		26	79000	
4.	Suvarna Jubilee Scholarships		43	430000	
5.	CH Mohammed Koya Scholarship		78	390000	
6.	State Merit Scholarship		3	15000	
7.	Central Sector Scholarship		12	120000	
8.	Fisherman Scholarship		16	40000	
9.	South Indian Bank Scholarship		2	10000	
10.	Snehapoorvam Scholarship		3	30000	
11.	Prof. Joseph mundassery scholarship		4	40000	
12.	PH Scholarship		2	13750	
13.	Higher Education Scholarship		2	72000	
14.	Management Scholarship		2	4000	
15.	KSCSTE Pratibha Scholarship		1	100000	
16.	PTA Scholarship		5	14000	

b) Students received Free Laptops, Uniforms and College bus fee etc. from various agencies and philanthropists

SI No	Details	Number of Students applied	Number of students Received	Agency/ Philanthropists donated	Approximate amount.
	Laptop Assistance		6	Government Assistance	150000
	Uniform				
	College bus fee				
	Any other				

17) Internal Complaint Committee (ICC) / Committee against sexual harassment (CASH)

SI No	Details of cases reported	Date	Action taken	Remarks
	NIL			

18) Students Achievements

a) Sports Achievements

SI No	Item	International/National	State	University	Interzone	Zone	Any Other
1.	Kabaddi	1 (All India Inter University Championship)					
2.	Weight Lifting	1 (All India Inter University Championship)					
3.	Weight Lifting	1 (Senior Nationals)					
4.	Kabaddi	2 (Junior Nationals)					
5.	Weight Lifting (61KG)				1 (Gold)		
6.	Taekwondo-Kyorugi				2 (Gold); 2 (Bronze)		
7.	Kalaripayattu-				1 (Gold);		

	Iratared Veeshal					1 (Bronze)		
8.	Kalaripayattu-Ottachuvadu					1 (Gold)		
9.	Kalaripayattu-Neduvadi Veestal					1 (Silver)		
10.	Taekwondo- Poomse					3 (Silver) 1 (Bronze)		
11.	Kalaripayattu-Kuruvadi Payattu					1 (Silver); 1 (Bronze)		
12.	Kalaripayattu-Ottared Veestal					1 (Bronze)		

b) Cultural And literary achievements

Sl No	Item	International/ National	State	University	Inter zone	Zone	Any Other
1.	Quiz						Minority cell
2.	Debate						Intercollegiate competition Organized by MES KVM College
3.	Street play competition			University			

19) Awards/Recognitions/patents received

Sl. No.	Name of Awardee	Student/faculty	Awarded by	Details of award
1.	Sameera Haneef	FACULTY	Kerala Mappila Kala Academy	S.M Jameela Beevi Award
2.	Nandu, M.R.	Student, III Sem MSc Applied Geology		KovilanPuraskaram

20) Publications of the college

Sl No	Name of the Publications	Periodicity of Publication	Remarks
	NIL		

21) Publications of Faculty in CARE journals, Books, Book Chapters, Popular articles etc.

Sl No	Title of Article	Sole Author/ First author/ Co author	Name of Journal/ Book/ periodical	Publisher	ISSN/ISBN number, Volume, Year of publication
1.	Alaa Al Aswany: An Edifice in the Modern Arabic Literature”	Sole Author	Majalla Kairala		2277-2839; Issue 14, July 2019, 150-157
2.	Resurrection and Re-description of Pampuscandidus (Cuvier), Silver Pomfret from the Northern Indian Ocean.	Rajool Shanis C.P Co-author	Zoological Studies	Biodiversity Research Center, Academia Sinica, Taiwan.	ISSN (E): 1810-522X; 58 (7). pp. 1-10
3.	Diversity of sediment bacterial communities in the South Eastern Arabian Sea	Mujeeb Rahiman K.M Co-author	Regional Studies in Marine Science	Elsevier B.V	ISSN 2352-4855 35, 101153, DOI: 10.1016/j.rsma.2020.101153
4.	Prevalence of multiple antibiotic resistant and extended spectrum beta-lactamase (esbl) producing Escherichia coli in a traditional fishing harbour and surrounding water bodies in the south-west coast of India	Zubair AA First author	Journal of Aquatic biology and fisheries	Journal of Department of Aquatic Biology and Fisheries, University of Kerala, India	ISSN 2321-340X Vol-6(!) 2018-19
5.	Travel Agency: As a facilitator of Travel and Tourism Sector of Kerala.	Siji Verghese V	Recent Advancement in Commerce and Management	P.G. Department of Commerce, NSS College, Ottappalam	978-81- 944600-0-8

6.	A study on financial inclusion through PMJDY	Muneera K			PAGE NO 161-169 OF PROCEEDINGS
7.	A study on financial inclusion through micro finance	Muneera K			
8.	Women Entrepreneurship in the MSME Sector of Kerala: A Study with Special Reference to Malappuram District	Raheena K M	The international journal of analytical and experimental model analysis		ISSN No 0886-9367
9.	Suicide rate of women in Kerala	Asha Neendur	A Journey in to the world of women		ISBN978-93-89146-91-2
10.	The Feminine Reverberations: An Analysis of Female Contributions to Arabi- Malayalam Literature	Sole Author Sameera Haneef	IJELLH- International Journal of English Language, Literature in Humanities		ISSN-2321-7065 Volume 7, Issue 8 August 2019 Page No: 401
11.	Pennezhuthinte Mappila Vithanagal	Sole Author Sameera Haneef	Ishal Lokam		Debut Volume
12.	Paurathwa Niyamam Dalitharkk Vendiyo	Sole Author Aameera VU	Samakalika Malayalam Weekly	Indian Express	2020
13.	Godseyude sathyaananthara pareekshanangal	Sole Author Aameera VU	Samakalika Malayalam Weekly	Indian Express	2020
14.	Mathasamgadanayile sthree:	Sole Author	Sangaditha	Anweshi	2019

	aanungal varaykkunna pen bhoopadangal	Ameera VU			
15.	Pennudal aarude thonalaanu	Sole Author Ameera VU	Sangaditha	Anweshi	2019
16.	Heavy Metal Accumulation in Sediments of a Tropical Estuary: A Case from the Southwest Coast of India”	Arunkumar K.S	International Journal of Lakes and Rivers (IJLR).		Volume 13, Number 1 (2020), pp. 57-71 ISSN 0973-4570
17.	Trace elemental fingerprinting of Ayurvedic medicine - Triphala Churna using XRF and ICPMS	R. V. Salma Ibrahim, M. M. Musthafa, K. M. Abdurahman, M. Aslam	Journal of Radioanalytical and Nuclear Chemistry, pp 1–8	Journal of Radioanalytical and Nuclear Chemistry	November 2019
18.	Microstructure profiling and photoluminescence characteristics of V(1-x)2 Ni3xO5-d compound systems	M. Sabna a , K. Safna a , J. Mayandi b , S. Zh. Karazhanov c , P Jayaram a,†	M. Sabna et al. / Materials Letters 266 (2020) 127507	Material Letters, Elsevier	February, 2020
19.	Multiple deep-level defect correlated emissions and phosphorescence in Eu3+ doped Gd2O3 compound systems	K.M. Riyas a , Prasoon Prasannan , P. Jayaram	Materials Letters 273 (2020) 12792	Materials Letters 273 (2020) 12792	2020
20.	Thermoelectric Properties of Zr x In x Zn 1-x O 1-δ Thin Films	Prasoon Prasannan, N.K. Deepak, N.K.Sulfikkarali, P. Jayaram	Advanced Materials Letters,	Advanced Materials Letters	Accepted for publication 2020

22) Publications of Students (Books, Book Chapters, Articles, by-lines, Stories, Poems etc.

SI No	Nature of publication	Name of author	Name of Journal/Book/periodical/News paper etc.	Publisher	Date of Publication, Volume, Page etc.
1.		S. Krishna	Our Heritage	Edoindex	21/12/2019, Vol-68-issue

23) Details of MoU of the College

SI No	MoU with	Period of MoU	Activities in MoU	Activities conducted during the year	Remarks
1.	CISO- INSTITUTE OF OCEANIC STUDIES PVT LTD, CHAVAKKAD	2019-2024	Joint research projects and publications, Students Project		Department of Aquaculture and Fishery Microbiology
2.	MES ASMABI COLLEGE, P.VEMBALLUR, THRISSUR, KERALA	2019-2024	Joint research projects and publications		Department of Aquaculture and Fishery Microbiology
3.	SOCIETY FOR MARINE RESEARCH AND CONSERVATION (SMRC), KOCHI, KERALA	2019-2024	Joint research projects and publications, student project, Workshop/Seminar		Department of Aquaculture and Fishery Microbiology
4.	ST ALBERTS COLLEGE ERANAKULAM	2019-2024	Joint research projects and publications, Workshop/Seminar, Student project		Department of Aquaculture and Fishery Microbiology
5.	DEPARTMENT OF CHEMISTRY, SREEKRISHNA COLLEGE , GURUVAYOOR	5 YEARS	KNOWLEDGE SHARING	INTERCOLLEGIATE QUIZ COMPETITION, POWERPOINT PRESENTATION COMPETITION, SEMINARS ON "Higher Education Perspective In Chemistry" ,	Department of Chemistry

				, "MOLECULAR MACHINE :BASICS" and 'Introduction to Pericyclic reactions'	
6.	BENZY FOOD AND BEVERAGES, PONNANI	5 YEARS	FAMILIARISING WORKING INSTRUMENTS	INDUSTRIAL VISIT	Department of Chemistry
7.	WATER LAB	2 YEARS	TRAINING ON WATER ANALYSIS AND KNOWLEDGE SHARING	DONE A PROJECT ON WATER ANALYSIS BY THE STUDENTS OF III BSC CHEMISTRY WITH THEIR ASSISTANCE	Department of Chemistry
8.	TIME Institute, Thrissur	24 June, 2016 to 24 June, 2021	Counseling classes for competitive exams. Provide inspirational talks	Provided motivational and inspirational class on commerce and competitive exams	Department of Commerce
9.	Accountants Academy, Edappal	22 June, 2017 to 21 June, 2022	Provide basic knowledge in manual and computerized accounting	Conducted career oriented awareness program	Department of Commerce
10.	Alliance Infocom, Ponnani	17 June, 2016 to 16 June, 2021	Train the students in computerized accounting		Department of Commerce
11.	London College of Business and Finance, Ernakulam	14 June, 2017 to 13 June, 2022	Conducts business oriented workshops Organize job fair Skill development programs	Awareness program on need of skills in the current era Conducted a class on skill development program	Department of Commerce
12.	Bappuji College, Ponnani	10 July, 2016 to 09 July, 2021	Motivate the students in academic activities Impart basic knowledge of commerce and		Department of Commerce

			accounting.		
13.	Ansar Women College, Thrissur	21 July, 2018 to 20 July, 2023	Academic research collaborations in areas of mutual interest Exchange of academic information		Department of Commerce
14.	Meshilogic Calicut	5 years	On the job training and software development		Department of Computer Science
15.	Alliance Infocom	5 years	Sort term courses and workshops for students		Department of Computer Science
16.	Department of Computer Science, KAHM Unity Women's College, Manjeri	5 years	Invited Talks and workshops		Department of Computer Science
17.	Department of Computer Science, E M E A College of Arts and Science, Kondotty	5 years	Invited Talks and workshops		Department of Computer Science
18.	RISS Technologies, Calicut	5 years	Working with live projects		Department of Computer Science
19.	eHackify Cyber Security Trainings, Tirur	5 years	Invited Talks, workshops and training programmes		Department of Computer Science
20.	Centre for Multi-Disciplinary Research, Kuttippuram	5 years	Project facility for students		Department of Computer Science
21.	London College of Business & Finance, Ernakulam				Department of

					Economics
22.	Campus Abroad Educational Service, Calicut		To Provide various educational & Professional Services	11	Department of Economics
23.	Kerala Gold & Diamonds		To provide knowledge on marketing and project preparation	2	Department of Economics
24.	Crescent English School Maranchery		To provide academic assistance and career guidance	1	Department of Economics
25.	Ansar Women's College	7 yrs from 2017	<ol style="list-style-type: none"> 1. Co-operate in exchange of information relating to their activities in teaching and research. 2. Conduct study camps and workshops that facilitate learning activity 3. Faculty and Student Enhancement programmes. 4. Conduct Seminars and Conferences that expertise knowledge and renew motivation and confidence. 		Department of English
26.	Dept of English, University of Calicut	2 Years from 2018	1 Faculty and Student Enhancement programmes.		Department of English

			<ul style="list-style-type: none"> 1. Conduct Seminars and Conferences that expertise knowledge and renew motivation and confidence. 2. Use of library resources 		
27.	Sreekrishna College, Guruvayur	5 yrs from 2017	<ul style="list-style-type: none"> 1. Co-operate in exchange of information relating to their activities in teaching and research. 2. Conduct study camps and workshops that facilitate learning activity 3. Faculty and Student Enhancement programmes. 4. Conduct Seminars and Conferences that expertise knowledge and renew motivation and confidence. 		Department of English
28.	Little Flower College, Guruvayur	2 years from 2018	<ul style="list-style-type: none"> 1. Co-operate in exchange of information relating to their activities in teaching and research. 2. Conduct study camps and workshops that facilitate learning activity 3. Faculty and Student Enhancement 		Department of English

			<p>programmes.</p> <p>4. Conduct Seminars and Conferences that expertise 2 years knowledge and renew motivation and confidence.</p>		
29.	Govt College, Malappuram	2 years from 2019	<p>1. Co-operate in exchange of information relating to their activities in teaching and research.</p> <p>2. Conduct study camps and workshops that facilitate learning activity</p> <p>3. Faculty and Student Enhancement programmes.</p> <p>4. Conduct Seminars and Conferences that expertise 2 years knowledge and renew motivation and confidence</p>		Department of English
30.	Govt College Kondotty	2 years from 2019	<p>1. Co-operate in exchange of information relating to their activities in teaching and research.</p> <p>2. Conduct study camps and workshops that facilitate learning activity</p>		Department of English

			<p>3. Faculty and Student Enhancement programmes.</p> <p>4. Conduct Seminars and Conferences that expertise 2 years knowledge and renew motivation and confidence</p>		
31.	KAHM Unity Women's College	2 years from 2019	<p>1. Co-operate in exchange of information relating to their activities in teaching and research.</p> <p>2. Conduct study camps and workshops that facilitate learning activity</p> <p>3. Faculty and Student Enhancement programmes.</p> <p>4. Conduct Seminars and Conferences that expertise 2 years knowledge and renew motivation and confidence</p>		Department of English
32.	Vyasa College, Wadakkanchery	2 years from 2019	<p>1. Co-operate in exchange of information relating to their activities in teaching and research.</p> <p>2. Conduct study camps</p>		Department of English

			<p>and workshops that facilitate learning activity</p> <p>3. Faculty and Student Enhancement programmes.</p> <p>4. Conduct Seminars and Conferences that expertise 2 years knowledge and renew motivation and confidence</p>		
33.	Amal College Nilambur	2 years from 2019			Department of English
34.	Dept. of Geology, DHOArts and Science College, Pookkarathara	2017-2022	Joint research projects and publications, Faculty and student exchanges based on reciprocity, reciprocal placement of students in paid internships and coops, Joint conferences and workshops		Department of Geology
35.	Dept. of Geology, KR's SN College, Valanchery	2017-22	Joint research projects and publications, Faculty and student exchanges based on reciprocity, reciprocal placement of students in paid internships and coops, Joint conferences and		Department of Geology

			workshops		
36.	Dept. of Geology, Assabah college, Valayamkulam	2017-22	Joint research projects and publications, Faculty and student exchanges based on reciprocity, reciprocal placement of students in paid internships and coops, Joint conferences and workshops		Department of Geology
37.	Dept. of Geology, Geomarine Solutions, Ponnani	2017-22	Joint research projects and publications, Faculty and student exchanges based on reciprocity, reciprocal placement of students in paid internships and coops, Joint conferences and workshops		Department of Geology
38.	Dept. of Geology, NSquare Management and Environmental Solutions, Edappal	2017-22	Joint research projects and publications, Faculty and student exchanges based on reciprocity, reciprocal placement of students in paid internships and coops, Joint conferences and workshops		Department of Geology
39.	Dept. of Geology, GEMS College, Ramapuram	2017-22	Joint research projects and publications, Faculty		Department of

			and student exchanges based on reciprocity, reciprocal placement of students in paid internships and coops, Joint conferences and workshops		Geology
40.	Dept. of Geology, Christ College, Irinjalakuda	2017-22	Joint research projects and publications, Faculty and student exchanges based on reciprocity, reciprocal placement of students in paid internships and coops, Joint conferences and workshops		Department of Geology
41.	Ansar College perumbilavu	3 years	Collaborate research activities and Student exchange for MSc projects	MSc projects	Department of Physics
42.	Vyassa NSS college	3 years	Collaborate research activities and Student exchange for MSc projects	MSc projects	Department of Physics
43.	Sreekrishna college Guruvayur	3 years	Collaborate research activities and Student exchange for MSc projects	MSc projects	Department of Physics
44.	MES engineering college- Mechanical engineering	3 years	Collaborate research activities		Department of Physics
45.	MES engineering college- department of physics	3 years	Collaborate research activities and Student exchange for MSc projects		Department of Physics

46.	MES KVM college, Valanchery	3 years	Collaborate research activities and Student exchange for MSc projects	MSc projects	Department of Physics
47.	Centre for inter-disciplinary research, Kuttippuram	3 years	Collaborate research activities		Department of Physics

24) Collaborations, Linkages, Exchange programmes etc

Sl No	Collaboration/ Linkage/ Exchange programme	Sharing of Resources	Activities	Activities conducted during the year-	Remarks
1.	Department of Marine Biology, CUSAT	Research collaborations	Faculty research	Research paper published	Department of Aquaculture and Fishery Microbiology
2.	Peninsular and Marine Fish Genetic Resources (PMFGR) Centre of the ICAR-NBFGR	Research collaborations	Faculty research	Research paper published	Department of Aquaculture and Fishery Microbiology
3.	Kerala veterinary and animal sciences university	Research collaborations	PhD Research		Department of Aquaculture and Fishery Microbiology
4.	Centre for Marine Living Resources and Ecology, (Ministry of Earth Sciences)	Research collaborations	PhD Research	PhD Co- Guide	Department of Aquaculture and Fishery Microbiology
5.	Dept. of Microbiology , University of Calicut	Research collaborations	PhD Research	PhD Co- Guide	Department of Aquaculture and Fishery Microbiology
6.	M.E.S HIGHER SECONDARY SCHOOL, PONNANI	KNOWLWDGE SHARING, ASSISTANCE AND	PARTICIPATION IN INTERSCHOOL COMPETITION	INTERSCHOOL CHARTMAKING COMPETITION	Department of Chemistry

		ADVICE IN DOING PROJECTS FOR PARTICIPATING IN SCIENCE PROJECTS COMPETITIONS	ORGANISED BY THE DEPARTMENT		
7.	K.V.USTHAD MEMORIAL DHO ARTS AND SCIENCE COLLEGE,POOKARATHARA	KNOWLEDGE SHARING	SEMINARS,QUIZ COMPETITION	INTER COLLEGIATE QUIZ COMPETITION,SEMINARS ON "Higher Education Perspective In Chemisty" , "MOLECULAR MACHINE :BASICS" and 'Introduction to Pericyclic reactions'	Department of Chemistry
8.	ANSAR COLLEGE PERUMBILAVU	PROJECT COLLABORATION	Student exchange	Master projects	Department of Chemistry
9.	Department of Computer Science and Engineering, M E S College of Engineering Kuttippuram		Invited Talks and workshops		Department of Computer Science
10.	Post Graduate Department of Computer Science, Ansar Women's College, Perumpilavu		Invited Talks and workshops		Department of Computer Science
11.	Industrial Office ponnani	Classes	Awareness classes	2	Department of Economics
12.	Statistical Office, Ponnani	Classes and programmes	Programmes	2	Department of Economics
13.	Crescent English School Maranchery	Teachers	To provide academic assistance and career Guidance	1	Department of Economics

14.	London College of Business & Finance, Ernakulam	Classes	To Contribute to academic and professional Courses	1	Department of Economics
15.	Campus Abroad Educational Service, Calicut Campus Abroad Educational Service, Calicut	Awareness and services	To Provide various educational & Professional Services	1	Department of Economics
16.	Kerala Gold & Diamonds	Employment Opportunity	To provide knowledge on marketing and project preparation	2	Department of Economics
17.	M.D College, Pazhanji	Resource Persons	To seek guidance on research and provide various educational and professional services	1	Department of Economics
18.	Ansar Women's College	Research collaboration	Student exchange	Student projects	Department of English
19.	Dept of English, University of Calicut	Research collaboration	Student exchange	Student projects	Department of English
20.	Sreekrishna College, Guruvayur	Research collaboration	Student exchange	Student projects	Department of English
21.	Little Flower College, Guruvayur	Research collaboration	Student exchange	Student projects	Department of English
22.	Govt College, Malappuram	Research collaboration	Student exchange	Student projects	Department of English
23.	Govt College Kondotty	Research collaboration	Student exchange	Student projects	Department of English

24.	KAHM Unity Women's College	Research collaboration	Student exchange	Student projects	Department of English
25.	Vyasa College, Wadakkanchey	Research collaboration	Student exchange	Student projects	Department of English
26.	Amal College, Nilambur	Research collaboration	Student exchange	Student projects	Department of English
27.	Kani Film Society	Seminar, Invited Talks	Student exchange	Student Projects	Department of English
28.	Clay Play House	Seminar, Invited Talks	Student exchange	Student Projects	Department of English
29.	Civil Service Academy	Seminar, Invited Talks	Student exchange	Student Projects	Department of English
30.	The Western Ghats Hornbill Foundation	Seminar, Invited Talks	Student exchange	Student Projects	Department of English
31.	Mappila Kala Academy	Seminar, Invited Talks	Student exchange	Student Projects	Department of English
32.	Ansar College perumbilavu	Research collaboration	Student exchange	Master projects	Department of Physics
33.	Vyassa NSS college	Research collaboration	Student exchange	Master projects	Department of Physics
34.	Sreekrishna college Guruvayur	Research collaboration	Student exchange	Master projects	Department of Physics
35.	MES engineering college- Mechanical engineering	Research collaboration	Student exchange	Master projects	Department of Physics
36.	MES engineering college- department of physics	Research collaboration	Student exchange	Master projects	Department of Physics
37.	MES KVM college, Valanchery	Research collaboration	Student exchange	Master projects	Department of Physics
38.	Centre for inter-disciplinary	Research	Student exchange	Master projects	Department of

research, Kuttippuram	collaboration			Physics
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25) Extension and out-reach programmes (Maximum 500 Words)

Description of Major Extensions and outreach programmes organised by the college				
<ol style="list-style-type: none"> 1. Awareness programme on conservation of protected Elasmobranchs among fishermen, 30th August 2019 (Department of Aquaculture and Fishery Microbiology) 2. Conducted water and sediment analysis as part of Environmental Impact Assessment (EIA) study for proposed suspension bridge project across Bharathappuzha in Ponnani, 22nd February 2020 (Department of Aquaculture and Fishery Microbiology) 3. Fund raising for Santhi palliative clinic, 17-01-2020 (Department of Chemistry) 4. Interschool chart making competition, 19/2/2020 (Department of Chemistry) 5. Soft skill development programme for school children, 19/2/2020 (Department of Chemistry) 6. Certificate program on women entrepreneurship in association with ED Club and KITCO, 09-12-2019 to 16-01-2020 (Department of Commerce) 7. 'Naomi 2020' – Inter Collegiate Management Fest, 12-02-2020 (Department of Commerce) 8. Kaithangu--Economic Empowerment of Fisher Women, 12/6/2019 (Department of Economics) 9. Swasraya—Entrepreneurial Development of Women in Ponnani, 08/9/2017 (Department of Economics) 10. Survey among the girls in coastal area regarding higher education, 2/3/20, 3/3/20, (Department of English) 11. Medical camp giving awareness on sex education for boys and girls, 7/03/2020 (Department of English) 12. Health camp for Kudumbasree women, 8/3/20 (Department of English) 13. Open House and Museum visit- Exhibition & Awareness class, 3.12.2019, 12.12.2019, 30.01.2020 (Department of Geology) 14. Training on fabrication of LED Lamps, 13/02/2020 (Department of Physics) 15. Scifari'19 – Exhibition, 25 to 27/02/2019 (Department of Zoology) 				

26) Details of Seminars, Workshops, FDP, Training Programmes, Skill enrichment programmes, Fests, camps, invited talks, Association activities etc. organised by the College.

Sl No	Title of the programme	Dates	No of Participants		Funding Agency With fund sanctioned	Fund generated from any other sources	Total funds received
			From	From Outside			

			college				
1.	Impact of global climate change on the marine	16 th August 2019	35		Department of Aquaculture and Fishery Microbiology		
2.	Scientific working group meeting on conservation and awareness of marine protected species at Malappuram district	22 nd August 2019	5	7	Department of Aquaculture and Fishery Microbiology		
3.	Behind The Scenes - Techniques and knowledge sharing talk on Wildlife photography	25 th September 2019	40		Department of Aquaculture and Fishery Microbiology	Alumni	
4.	Training workshop on HACCP (Level 3)	3-5 February 2020	14	5	Department of Aquaculture and Fishery Microbiology	UniBiosys Biotech Research Lab, Kochi	
5.	Motivational class	4/7/2019	40	0	Department of Chemistry	---	---
6.	Paper pen making	27/9/2019	22	0	Department of Chemistry	----	----
7.	INTERNATIONAL MOLE DAY CELEBRATION - FLASH QUIZ	24/10/19	1000	0	Department of Chemistry	----	----
8.	SHORT FILM SHOW	24/10/19	150	0	Department of	----	----

					Chemistry		
9.	Seminar on "Introduction to Pericyclic reactions"	15-02-2020	39	12	Department of Chemistry	----	----
10.	ZEALICON 2020 – Association inauguration	20/2/2020	200	80	Department of Chemistry	----	----
11.	Intercollegiate power point presentation	19/2/2020	0	8	Department of Chemistry	----	----
12.	Intercollegiate quiz competition	19/2/2020	0	20	Department of Chemistry	----	----
13.	Film quiz competition	19/2/2020	150	0	Department of Chemistry	----	----
14.	Seminar on "MOLECULAR MACHINE :BASICS"	20/2/2020	134	28	Department of Chemistry	----	----
15.	'Naomi2020' – Inter Collegiate Management Fest	12/02/2020		165	Department of Commerce		
16.	Agnito -BBA Association	11.02.2020	150		Department of Commerce		
17.	Certificate program on women entrepreneurship in association with ED Club and KITCO	09-12-2019 to 16-01-2020	4	25	Department of Commerce		

18.	Workshop on the Awareness of MOOC Courses		430	0	Department of Computer Science		
19.	One day Workshop on Android Application Development		50		Department of Computer Science		
20.	Gamora 2K19- Inter Department Game Fest		72	0	Department of Computer Science		
21.	Zerone 2020- Inter Collegiate IT Fest		24	91	Department of Computer Science		
22.	Invited Talk on Cyber Security, conducted by eHackify Cyber Security Trainings		90	0	Department of Computer Science		
23.	Technical Quiz conducted by Keltron Knowledge Centre, Edapal		71	0	Department of Computer Science		
24.	“Kaithangu” Women Entrepreneurial Program	8/7/2020	28	45	Department of Economics	Alumni contribution	
25.	“Girls with Goals”	17/11/2019	17	20	Department of Economics	Alumni contribution & Teachers Contribution	
26.	Onam Fest	6/9/2019	220	--	Department of Economics		
27.	Association Program	17/2/2020	210	2	Department of Economics		
28.	Dalit Women Identity and Cultural Discourse- Sunny M Kapicadu	21/11/2019	220	0	Department of English		
29.	Gender Justice: Women and Society – Adv Cuckoo Devaki	26/11/2019	187	0	Department of English		

30.	Women Resistance in Fascist Era- KEN	05/12/2019	115	0	Department of English		
31.	Thirichu Pidicha Thirasseela: Malayala Cinemayile Sthree – Hari Narayanan	18/ 02/2020	120	0	Department of English		
32.	Purushan Kayyadakkiya Bhaasha: Prof. Viju Nayarangaadi	02/03/2020	100	0	Department of English		
33.	Jashn-e-Azadi	13/02/2020	100	150	Department of English		
34.	Film festival, documentary fest	27/11/2019 28/11/2019	30	0	Department of English		
35.	Understanding ArcGIS, Workshop Under the Bhuvismvad Program of Geological Survey of India	5th & 9 - 12 October 2019	120	Nil	Department of Geology	Nil	NIL
36.	Gt.Aide Training , Workshop Under the Bhuvismvad Program of Geological Survey of India	07.12.2019	60	20	Department of Geology	Nil	NIL
37.	Aventurine 19	18th,19th and 20th of October,2019	130	60	Department of Geology	Nil	Nil
38.	Ozone Day	01.10.2019	100	Nil	Department of Geology	Nil	Nil
39.	Students seminar 2K20	09/01/2020	170	0	Department of Physics	-	Nil
40.	ESPACIO - Golden jubilee	24/07/2019	14	0	Department of	-	Nil

	celebration of moon landing – poster making competition				Physics		
41.	ESPACIO - Golden jubilee celebration of moon landing – Quiz competition	24/07/2019	50	0	Department of Physics	-	Nil
42.	one day seminar on ‘partial differential equation’	27/11/2019	17	42	Department of Physics	-	Nil
43.	Invited talk on ‘Antartica – icy continent’ monsoon – role of ocean	28/01/2020	170	0	Department of Physics	-	Nil
44.	Invited talk on ‘monsoon – role of ocean’	29/01/2020	170	0	Department of Physics	-	Nil
45.	Nurturing scientific temperament among youth for sustainable living”	25/02/2019	110		KSCSTE & Department of Zoology		10,000/-
46.	western ghats	31/10/2019	106		Department of Zoology		--

27) Details of Competitive Exams

Sl No	Name of Competitive Examination	Number of Students Appeared	Number of Students Selected with details	Remarks
1.	UGC- NET/JRF Examination, Commerce	36	12	NET-10; JRF- 2
2.	Kerala PSC (Commerce)	64	-	-
3.	Bank Test (Commerce)	7	1	Joined in PNB Ponnani Branch

28) Details of Basic Infra structure

a) Total Land Area: 25.93 Acre

b) Built up Area

Sl No	Name of Block/Lab/Library/Hostel/Canteen etc.	Built Up area in Sq. M.	Building Number provided by Local body	Existing	Newly added	Under Construction
1.	Main Block	8493.87	235-247,257	✓		
2.	Commerce Block	556.30		✓		
3.	Computer Science Block	328.41	407	✓		
4.	Golden Jubilee Block	1321.08				
5.	Library	443.43		✓		
6.	Auditorium	462.19		✓		
7.	Girls' Hostel	1170.8		✓		
8.	Boys' Hostel	616.54	258,259	✓		
9.	Canteen	159.60		✓		
10.	Haroon Memorial Hall	96.62	409	✓		
11.	Girls' Room	148.36		✓		
12.	Boys' Room	165.31		✓		

c) Details of Class rooms/ Labs

Sl No	Details	Number	Existing	Newly Added (with details of funding agency)
1.	Class rooms	56	✓	
2.	Labs	16	✓	
3.	Rest rooms	2	✓	
4.	Toilets	63	✓	
5.	Other rooms (Specify)			

d) Details of Major equipment purchased (above one lakh)

Sl No	Name of Lab/library/office/Hostel/Store/Canteen	Major equipments	
		Existing	Newly Added with details of funding agency
1.	Sophisticated Analytical Facility (DST FIST)	Atomic Absorption Spectrophotometer	
2.	Sophisticated Analytical Facility (DST FIST)	UV-VIS Spectrophotometer	
3.	Sophisticated Analytical Facility (DST FIST)	Flame Photometer	
4.	Petrology Lab (DST-FIST)	Petrological Microscope (Multi-head)	
5.	Material Science Lab (DST-FIST)	High-temperature furnace	

e) Whether the college keeping a Stock register for furniture: YES/NO

f) Details of furniture Purchased in this year

Sl No	Furniture	Where it is using	Total Number	Total amount	Funded by
1.	Chair	Departments	42	332600	Management
2.	Table		46		Management
3.	Computer table		3		Management
4.	Book shelf		5		Management
5.	Bench and Desk	Geology Dept.		90,000	Management
6.	Book shelf	Library		2,30,000	Management
7.	Bench and Desk	College	50	2,25000	Management
8.	Chair & Visiting chair	office		30,900	Management

29) ICT infra-structure

Whether the college office is having Learning Management System (LMS): YES

SI No	Items		Existing	Newly Added		
				Number	Funded by	Amount
	Computers	Academic	70			
		Administrative	11			
	LCD Projectors/Screen		50			
	Smart board		4			
	Studio		-			
	Audio Visual Room		-			
	Any other (Specify)					

30) LIBRARY

a) Library Advisory Committee is functioning or Not: Functioning

b) Whether library is Automated or Not: Yes

If Yes, Specify the software using: Koha 19.05.04.000

SI No	Details	Existing Number	Newly added			Damaged
			Number	Funded by	Amount	
	Books	37531	494	*	78753	270
	Journals	30	1	PD	47071	27 DISCONTINUED
	E- resources	3151142	-	PD	5900	
	Periodicals	63	-	PD	24286 [#]	
	Rare Books etc.	-	-	-	-	

* The books collected through a programme called "Ente pusthakam ente librarikk"

Including Newspaper

31) INFRA STRUCTURE FOR SPORTS AND GAMES

Total area of Play Grounds:-

SI No	Details	Existing Number	Newly added		
			Number	Funded by	Amount
1.	Football court	1			
2.	Volley ball Court	1			
3.	Basket Ball Court	1			
4.	Health club/ Fitness centre	1			
5.	400 meters non-standard track	1			
6.	Kabaddi court	1			
7.	Badminton Court (Indoor)	1			
8.	Cricket Nets with two practice pitches	1			
9.	Taekwondo Court	1			
10.	Yoga practicing arena	1			
11.	Soft tennis and ball badminton court	1			
12.	Court for Tug of war	1			
13.	Ice bathing facility	1			
14.	Sevens Football Field	1			
15.	Equipments (Kabaddi Mat)			Management	300000

32) Registers maintained by the Office

SI No	Details	Updated or Not	
		Yes	No
	Personal Register	✓	
	Personal File	✓	

	Inward Register	✓	
	Despatch Register	✓	
	Movement Register		
	Visitors Book	✓	
	Annual Report	✓	
	Establishment Register	✓	

33) Accounts Details

Sl No	Details	Updated or Not		Audited or Not
		Yes	No	
	Annual budget	4, 20,00000 (Capital) 8,39,00000 (Administrative)		
	Half Yearly returns			
	TR7			
	PD (Spl. Fee)	11,64070		
	Management Account	80,63,015		
	UGC/RUSA/Fund from other agencies	NIL		
	PTA	14,45,877		
	Alumni (Specify Registered or Not)			
	Any Other (Specify)			

CO-CURRICULAR ACTIVITIES

34) College Union Activities

Name of Staff advisor : Safaras Ali Kadughothel

Members of Union Executive

President of the Union : M.N. Muhammed Koya, Principal

Chairman : T. Najeeb

Vice-Chairman : K.S. Anagha

Secretary : T. Vimal

Joint-Secretary : C.S. Anagha

University Union Councillors : 1. K.K. Mashood
: 2. T.K. Sharoof

Secretary, Fine-Arts : P. Muhammed Najeed

General Captain for Sports and Games : K. Jabir

Chief Student Editor : T. Adnan

Elected members : 1. M. Fathima Jifri
: 2. T.P. Indrajith
: 3. P.P. Hafish Muhammed

Sl No	Details of the activities	Date	Number of students participated	Remarks
1.	Union Inauguration	18-10-19	1100	
2.	"Athmolsavam" - Cultural Festival	05-11-19	1000	
3.	"Top Singer 2K19" - Music Competition	04-12-19	350	
4.	"Aravam" - Arts Fest	17-12-19 to 18-12-19	1150	
5.	"Pourathwa Bill, Vivejanathinte Kanakkupusthakamo" - Debate,	13-12-19	250	
6.	"Kismath" - Online Haiku Competition	15-02-20	200	
7.	Food Fest	19-02-20	1150	

35) Fine Arts & Literary Activities

Name of Fine Arts Advisor: Dr. P.V. Jyothi

Sl No	Details of the activities	Date	Number of students participated	Remarks
1.	"Athmolsavam" - Cultural Festival	05-11-19	1000	
2.	"Top Singer 2K19" - Music Competition	04-12-19	350	
3.	"Aravam" - Arts Fest	17-12-19 to 18-12-19	1150	

36) NSS

A) Number of Units: 28 & 67

B) Number of NSS volunteers: 100

c) Name of Programme officers : 1. P.K. Abdul Nafih
: 2. V.M. Farisha

Sl No	Details of the activities	Date	Number of students participated	Amount		Remarks
				Spent	Received	
1	Observed World Day against Child Labor,	12 June, 19	40	1000		
2	Observed International Yoga day associated with Dept. Physical Education On 21 June, 2019	21 June, 2019	35	0		
3	One Day Camp Team building session	18/06/2019	80	2000		
4	Observed world youth skill day on 15 July, 2019	15 July, 2019	25	200		
5	Teachers day on 5 Sept. 2019	5 Sept. 2019	30	500		
6	Observed of Swachhta Pakhwada August, 2019	August, 2019	76	0		
7	NSS Volunteers Participated in Health and Well Being Mapping Programme – 7to 9 Sept. 2019	7to 9 Sept. 2019	40	0		

8	Motivation Class for NSS Volunteers	24 october 2019	80	0		
9	Swach Nirmal Tat Abhiyan – (Dhesheeya Kadalora sucheekarana Yajnam) - MoEF&CC initiative		40	1500		
10	Children's day – 14 Nov 2019	14 Nov 2019	40	1000		
11	World Aids day -Dec -2019	02-Dec -2019	84	400		
12	Cleaning at Hospitals	3 rd and 9 th Dec- 2019	600	60		
13	Orientation Programme for 1st years on 14/12/19	14/12/19	3000	80		
14	Kadalolam' - Seven day Special camp – Dec 2019	21-27, Dec, 2019	45000	100		
15	Fund Collection Programme for Santhi Pain & Palliative care Unit – 15 jan 2020	15 jan 2020	0	40		
16	Observed world cancer day on 4 Feb, 2020	4 Feb, 2020	1000	74		
17	Hand Sanitizer preparation – March 2020	March 2020	800	10		

37) NCC (Army/Navy)

A) Name of the NCC Officer:

B) Total Number of cadets

C) Major Achievements:

Sl No	Details of the activities	Date	Number of cadets participated	Remarks
1.				

38) Youth Red Cross

A) Name of Co-ordinator:

B) Number of Members:

Sl No	Details of the activities	Date	Number of students participated	Remarks
1.				

39) Red- Ribbon Club

Sl No	Details of the activities	Date	Number of students participated	Remarks
1.	Meeting to add new volunteers to the club, 50 members from various departments are selected	01-08-2019	50	
2.	Formed large red ribbon model in front of the college main gate on December 2, almost 350 students assembled to form red ribbon model and took a pledge	02-12-2019	350	
3.	Conducted World Aids Day Rally for spreading the message of incurability of AIDS, its precaution and prevention through slogan and banners	02-12-2019	350	
4.	Short film are shown to make awareness of HIV	03-12-2019	250	

40) Nature Club

Sl	Details of the activities	Date	Number of	Remarks
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No			students participated	
1.	Nature club volunteer recruitment	10/10/2019	45	
2.	Orientation class	08/11/2019	40	
3.	Tree plantation in EK Garden	18/12/2019	20	

41) ED Club/IEDC/IIC/Start Up/ Innovation activities etc

Sl No	Details of the activities	Date	Number of students participated	Remarks
1.	On the observance of World Entrepreneurship Day organised an entrepreneurship awareness class Resource person: Smt Smitha P (Assistant District Industries Officer, Ponnani)	21/08/2019	65	
2.	ED members participated and presented the project in the programme named" IDEA FAIR" organized by Malabar Chamber of Commerce, Malappuram at Eranad Knowledge City, Manjeri	28/09/2019	4	
3.	WEDP(4 weeks)	09/12/2019-16/01/2020	30	

42) Career and Counselling Cell

Details of Career guidance, Counselling Class, Soft skill training, Awareness Programmes offered

Sl No	Name of Programme	Dates	No of students participated	Remarks, if any
1.	Induction Program Workshop Series	8th to 11th July 2019	300 plus	
2.	Higher Education at Central Universities	16/12/2019	400 students	

3.	Placement Readiness Workshop to BBA and BCom Students	06/12/2019	120 students	
4.	Employability Workshop	20/12/2019	300 students participated	
5.	Micro Tec Education Expo	15/01/2020	150 students participated	

43) Women Cell

Name of Co-ordinator: V.U. Ameera

Sl No	Details of the activities	Date	Number of students participated	Remarks
1.	Women and Path of Resistance (Inaugural talk of Women Cell) - Nilambur Ayisha	08-011-2019	90	
2.	Dalit Women Identity and Cultural Discourse- Sunny M Kapicadu	21-11-19	75	
3.	Women in Theatre- Dr. M.S Surabhi, Bibin Das Parappanangadi, Vineeth (Cine Artist)	24-11-19	25	
4.	Women Resistance in Fascist Era- KEN	05-12-19	100	
5.	Thirichu Pidicha Thirasseela: Malayala Cinemayile Sthree –Hari Narayanan	12-01-20	50	
6.	Poster making on women power	03-03-20	10	
7.	Haiku Poem competition on celebration of womanhood	04-03-20	20	
8.	Kulasthree out- Live shooting among male students to get their concept on would be and to reorient them	04-03-20	20	
9.	Quiz on women	05-03-20	30	
10.	A survey in the coastal area of Ponnani on the menstrual hygiene awareness	22-02-20-28-02-20	15	
11.	conducted medical camp for women in coastal area	02-03-20	300	

	and distributed 300 pkts of sanitary pad for them.			
12.	survey among the girls in the coastal area to find out their reasons for drop out	25-02-20 28-02-20	15	
13.	Conducted a career orientation program for the girls in coastal area	03-03-20	30	
14.	Legal awareness class	04-03-20	50	
15.	Cybercrime awareness class	05-03-20	60	
16.	Four Day Premarital Counselling in cooperation with Premarital Counselling Cell supported by Directorate of Minority Welfare Board.	02-03-20 05-03-20	30	
17.	Career Guidance for girls in College	08-03-20	30	
18.	Film festival, documentary fest and discussion	11-03-20-13-03-20	35	
19.	Debate series	16-03-20 -18-03-20	85	
20.	Discussion forum on women issue 'cheenimarathanalil'	19-03-20	20	
21.	'Room of one's own' Discussion of women writing	20-03-20	25	

44) SC/ST Cell

Sl No	Details of the activities	Date	Number of students participated	Remarks
1.	Meeting of all students	4/04/2019	75	Gave a brief Introduction about the SC-ST Cell and scope of the cell.
2.	PSC one time registration.	14/08/2019	20	Students from CS Department helps them to complete the registration process
3.	Awareness about the Scholarships and	09/10/2019	25	First year students participated in the meeting.

	laptop scheme			Collect the details of Computer Science students for laptop scheme.
4.	Laptop distribution	17/11/2019	15	Principal M.N Muhammed Koya distributed the laptop in the meeting
5.	“Attain your Goal “	8/12/2019	20	Motivational Class For second and third year students
6.	One week workshop on office automation		35	For all SC-ST students of our college.1

45) Minority Cell/OBC cell

Sl No	Details of the activities	Date	Number of students participated	Remarks
1.				

46) Gender Equity Programmes

Sl No	Details of the activities	Date	Number of students participated	Remarks
1.	Gender Justice: Women and Society – Adv Cuckoo Devaki	22-11-19	80	
2.	Purushan Kayyadakkiya Bhaasha: Prof. Viju Nayarangaadi	22-01-20	40	
3.	‘Snehaadaram for Sthree Shakthi’ award for Vijayaraja Mallika and Rekha Karthikeyan	02-03-20	60	
4.	Troll down patriarchy- troll making competition to expose patriarchal agencies	03-03-20	18	
5.	‘aan dialogukale thiruthi pennungal’ writing counter	06-03-20	35	

	dialogue to patriarchal dialogues on women in media and movies			
6.	Flash mob competition and giving awareness on rape victims in that gathering	07-03-20	60	
7.	Release of Manuscript Magazine on Women 'Orumbettol' rejoicing womanhood.	08-03-20	80	
8.	Medical camp giving awareness on sex education for boys and girls (in collaboration with MES medical college)	07-03-20	120	
9.	Self Defence Training given for selected group	09-03-20	25	
10.	Special Training for Disaster Management	10-03-20	15	
11.	Sports Competition for girls like tug of war, kabaddi etc.	11-03-20- 13-03-20	42	

47) Anti Ragging Cell

Number of awareness programmes organised:

Sl No	Details of cases reported	Date	Action taken	Remarks
	NIL			

48) IQAC Initiates

AQAR of last year submitted or not: Yes

Sl. No.	Action Plan	Achievement Status	Remarks
1.	A mass awareness programme on the need for conservation of water resources and spreading		

	water literacy		
2.	Research project proposals will be submitted by the faculty members to various funding agencies		
3.	The geochemical laboratory of the Geology dept. will be modernised and will be equipped to provide solutions for water related issues of the public		
4.	A new research laboratory with newly arrived Leica Microscope under FIST programme installed for research and teaching purpose		
5.	A centralised laboratory under FIST installed with Atomic Absorption Spectrometer and Flame photometer which can lead milestone developments in the research activities of the departments		

49) Previous Peer team Recommendations and Implementation Status

Sl No	Major Recommendations of NAAC Peer Team	Fulfilment Status
1.		
2.		

50) Feedback Mechanism

Sl No	Type of Feedback	Prepared report or not	Action initiated	Whether uploaded in the website	Remarks
1.	Structured feedback from all the stakeholders	Obtained from stakeholders	Feedback are being compiled and analysed for action plans		

51) Support Services

Sl No	Support Service	Status Details
1.	Co-operative store	A co-operative store registered under co-operative registration act is functioning in the college
2.	Canteen	Canteen is in function and is under renovation
3.	Students Centre	PTA has funded for establishing a student centre. Furnishing of the same is underway
4.	Counselling Centre	College has a counselling centre with two teachers as in-charges of the centre
5.	Medical Centre	Instead of a media centre, one of the teacher has been assigned with the charge of media
6.	Hostels	Institution provide hostel facility for both girl and boy students. The Boys' hostel is under renovation now
7.	College Bus	College promotes usage of public transport and do not run a college bus
8.	Day Care Centre	NIL
9.	Any Other (Specify)	

52) Best Practices (In the format suggested by NAAC)

Describe the Best Practices of the college
<ul style="list-style-type: none"> • College fitness education Programme (COFE). • Smart-class rooms: All the class-rooms are upgraded as smart class rooms • Energy conservation: A project is underway to replace all the existing lights by LED lamps • Plastic free campus

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53) Institutional Distinctiveness (Maximum 500 words)

Distinctiveness of the institution
<ul style="list-style-type: none"> • The institution is situated in the coastal stretch of south west part of India, where majority of the population is from fishermen community. The institution was established with a primary objective to enhance the educationally and fiscally backward population living in this region. Moreover, a good number of seats under management quota are reserved for fishermen community students. • This is one of the rare institute under government aided colleges, which caters the financially backward population by means of providing aided courses alone, where the financial backwardness of the population does not allow the pupil to go for self-financing courses.

54) Green Initiatives of the College

Tree Plantation
<ul style="list-style-type: none"> • The institution has a well-maintained herbal garden and is expanding year by year with addition of new plants • Environmental committees such as Nature Club, Biodiversity Club, Bhoomithrasena are functioning in the college and are very active in making the campus green and plastic free conducting talks on environment related issues
Alternate Energy initiatives
<ul style="list-style-type: none"> • A pilot project is underway to lay solar panels on the roof-top of computer science building to meet the power need of the department. • The institute adopts energy efficient lighting
Rain Water Harvesting
<ul style="list-style-type: none"> • Since the College is situated in a coastal sandy-aquifer belt, where the water table is very close to the surface perennially, sub-

<p>surface recharge of aquifers are not an advisable mechanism. However, a pond has been constructed in the college premise for effective infiltration of rain water.</p> <ul style="list-style-type: none"> • Rainwater is being collected and used in the laboratories of chemistry
<p>Waste Management</p>
<ul style="list-style-type: none"> • The college ensures safe disposal of laboratory wastes • An incinerator is set up in the campus
<p>Plastic free Initiatives</p>
<ul style="list-style-type: none"> • Waste bins are set up in different parts of the campus to avoid careless throwing of plastic and other materials. • Several panels upholding the importance of environmental conservation is displayed throughout the campus.
<p>Promoting Public transporting</p>
<ul style="list-style-type: none"> • Most of the students and many of the teachers and office staff are utilising public transport system to reach the college.

55) Locational advantages/disadvantages (Maximum 300 words)

<p>Activities/ programmes for addressing locational advantages/disadvantages</p>
<ul style="list-style-type: none"> • The institution is situated in the coastal stretch of south west part of India, where majority of the population is from fishermen community, where educational attainments were very limited in the early days. However, this institution has provided ways and means for promoting the need of higher education in the community.

56) Other information (Maximum 500 words)

<p>Any other relevant activities/ Achievements.</p>
<ul style="list-style-type: none"> • Modern laboratories with high-end analytical facilities were established with the help of Department of Science and Technology

(DST), Govt. of India through FIST funding

- The department of physics is upgraded as a research department in the last year.

Signature :

Name of Principal : Dr. A.A. Zubair

1. Name of the Department:

Department of Physics

2. Year of establishment:

1981

3. Names of programmes offered (UG, PG,)

B. Sc., M.Sc in Physics

4. Names of Interdisciplinary courses and the departments/units involved

None

5. Annual/semester/choice based credit system (Programme-wise)

B. Sc. and M.Sc– CBCSS Mode

6. Participation of the department in the courses offered by other departments

The undergraduate students of the department have option to opt for the Open Courses offered by the other departments in the College. Similarly, the students of other departments in the college can opt for the Open Courses offered by the Physics Department. Department offers Complementary Courses for U.G Students of Geology, Computer science and Chemistry.

7. Courses in collaboration with other universities, industries, foreign institutions, etc.

None

8. Details of programmes discontinued, if any, with reasons:

No such programmes

9. Number of teaching posts sanctioned and filled:

	Sanctioned	Filled
Professor	0	0
Associate Professors	1	1
Asst. Professors	8	8
Others*	0	0

* Guest Faculty – 1, Visiting Faculty – 0, Adjunct Faculty – 0.

10. Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance:

Name	Qualification	Designation	Specialization	Experience (Yrs*)	No. of Ph.D. Students Guided (Last 4 Yrs)
Jeeja.v.s	MSc ,Mphil	Associate Professor	Industrial Physics	30	Nil

Dr.Jayakrishnan.k	M Sc,PhD	Asst. Professor	Material Science	12	Nil
Jumailath K	MSc,MPhil	Asst. Professor	Material Science	4	Nil
Muhammed Abdurahman.K	MSc,MPhil	Asst. Professor	Nuclear Physics	6	Nil
Sabna M	M.Sc., B. Ed.	Asst. Professor	Material Science	4	Nil
Riyas KM	MSc	Asst. Professor	Electronics	2	Nil
Safna K	MSc,B.Ed	Asst. Professor	Electronics	4	Nil
Dr Jayaram.P	MSc, MPhil,PhD	Asst. Professor	Material Science	2	Nil
Mohammed Shibu K	MSc	Asst. Professor	Material Science	2	Nil

*Including experience from previous institute

11. List of senior Visiting Fellows, adjunct faculty, emeritus professors

1. Dr Mustafa (Associate Professor, Dept. Of Physics, Calicut university)
2. Prof.Purushothaman (Retd. Professor, SKVC, Thrissur)
3. Dr.M.Abdul Salam (Vice Chancellor, Calicut University)
4. Dr.V.P.N Nampoori (Emiretus Professor International school of Photonics, CUSAT)
5. Dr.C.P Girija vallabhan (Founder Director, ISP-CUSAT)
6. Dr.Rajesh Anto (Department of Vascular Surgery, Daya hospital)
7. Dr K. Candrasekharan(Department of Physics, NIT, Calicut)
8. Dr Regi Philip (Associate Professor, RRI, Bangalore)
9. Dr.T.N.Narayanan (Scientist Fellow, Central Electrochemical Research Institute)
10. Dr.P.A Subha (Associate Professor, Farooke college)
11. Dr .P. Sethumadhavan(Associate Professor,Chelannur)
12. Dr.Suresh (H O D,Department of Physics,PSMO)
- 13.Mrs. Anupama. T. V. IAS (Food Safety Commissioner &Additional Director of Tourism.
- 14.Prof K.Suresh babu .(HOD, Dept of Physics, Govt college ,Madappally)
- 15.Dr.S.N.Potty(Scientist, C-MET-Thrissur)
- 16.E.V.Mohammed Basheer(Asst .executive engineer Ponnani)
- 17.Dr.Libu Alexander(Assistant Professor, Dept. Of Physics Calicut university)

18. Dr.Jeevan Job Thomas (Scientific writer, Ad-hoc Professor, NIT Calicut)

19. Dr. Shafakath Abdulla, (King Khalid University, Saudi Arabia)

12. Percentage of lectures delivered and practical classes handled (programme wise) by temporary faculty

Programme	% of Classes Taken by Temporary Faculty
B.Sc	Nil
M.Sc	Nil

13. Student Teacher Ratio (Programme-wise)

Programme	Student Teacher Ratio
B.Sc	35 : 1
M.Sc	10: 1
Ph.D.	NA

14. Number of academic support staff (technical) and administrative staff: sanctioned, filled and actual

Staff Type	Sanctioned	Filled	Actual
Academic support staff (Technical)	4	2	4
Administrative staff	0	0	0

* Temporary staff

15. Qualifications of teaching faculty with DSc/ D.Litt/ PhD/ MPhil / PG.

Name	Qualification	Specialization
Jeeja.v.s	MSc ,Mphil	Industrial Physics
Dr.Jayakrishnan.k	M Sc,PhD	Material Science
Jumailath K	MSc,M Phil	Material Science
Muhammed Abdurahman .K	MSc,M Phil	Nuclear Physics
Sabna M	MSc	Material Science
Riyas KM	MSc	Electronics
Safna K	MSc	Electronics
Dr Jayaram.P	MSc, MPhil,PhD	Material Science
Mohammed Shibu K	MSc	Material Science

faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies, project title and grants received project-wise.

Number of faculty with ongoing Research Projects	International	0
	National	0
Total grants received (in `)		0

Faculty (PI)	Project Title	Funding Agency	Grant Received (in `)
Total Grant			

17. Departmental projects funded by DST - FIST; UGC, DBT, ICSSR, etc. and total grants received

Faculty (PI)	Project Title	Funding Agency	Grant Received (in `)
NA	DST FIST LEVEL 0	DST	75,000,00.00
Total Grant			75,000,00.00

18. Research Centre /facility recognized by the University

Nil

19. Publications:

Publication	Number
Publication per faculty	11
Number of papers published in peer reviewed journals (national/international) by faculty and students	11
Number of publications listed in International Database (For Eg: Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.)	10
Monographs	0
Chapters in Books	1
Book	ISBN
1. Solid Compounds of Transition Elements II;	13:978-3-03785-519-5
	Publisher
	Solid State Phenomena
Edited Books	1
Book	ISBN
	Publisher
Citation Index (Range)	17
Source Normalized Impact per Paper – SNIP (Range)	1.5
SCImago Journal Rank – SJR (Range)	-
Impact Factor (Range)	1-2.8
h-index (Range)	2

20. Areas of consultancy and income generated

Area of Consultancy	Income Generated
PhD/Mphil/ MSc Research consultancy	Nil

21. Faculty serving in

Faculty Serving in	Number
National committees	0
International committees	World Academy of Science Engineering and Technology (WASET)
Editorial Boards	0
Any other (please specify) Board of studies members in UG	2

22. Student projects

Name of the Faculty	% of Students
Percentage of students who have done in-house projects including inter-departmental projects	30
Percentage of students doing projects in collaboration with other universities/industry/institute	70

23. Awards/recognitions received at the national and international level by

Faculty	0
Awardees	Award
Dr Jayaram.P	<ol style="list-style-type: none"> 2nd best paper presentation (Oral): International Conference and Workshop on New Materials and Devices for Photovoltaic applications-2011. Madurai Kamaraj University, Madurai Poster award at INDO-US Workshop on Nano-Structure Electronic Materials (IUSWNM-2013), Thrissur-India.
Dr Jayakrishanan K	<p>Publications</p> <p>[1] K. Jayakrishnan, Antony Joseph, Paulson Mathew, T. B. Siji, K. Chandrasekharan, Siji Narendran, Jaseela M. A. K. Muraleedharan, <i>Synthesis, Z-Scan and Degenerate Four Wave Mixing characterization of certain novel thiocoumarin derivatives for third order nonlinear optical applications</i>, Optical Materials, 171-182, 58, (2016). (Published)</p> <p>[2] K. Jayakrishnan, Antony Joseph, Jayakrishnan Bhattathiripad, M.T. Ramesan, K. Chandrasekharan, Siji</p>

	<p>Narendran, <i>Reverse saturable absorption studies in polymerized indole – Effect of polymerization in the phenomenal enhancement of third order optical nonlinearity</i>, Optical Materials, 54, 252-261, (2016). (Published)</p> <p>[3] K. Jayakrishnan, P. Sreejith, Antony Joseph, Siji Narendran, K. Chandrasekharan, E. Purushothaman, <i>Synthesis, Z-Scan and Degenerate Four Wave Mixing Characterization of Certain Functionalized Photosensitive Polyesters containing ortho-hydroxyazo chromophores</i>, Optical Materials, 45, 171–180, (2015). (Published)</p> <ul style="list-style-type: none">• Seminar presentations <p>[1] NCMOMS-2015, National conference on modern optics and material science, 17th and 18th December 2015, at Farook College, Kozhikode. Topic-“<i>Third Order Nonlinear Optical studies in certain derivatives of Coumarine via Z-scan and Degenerate Four Wave Mixing techniques</i>”.</p> <p>[2] DAE-BRNS National Laser Symposium (NLS-24), 2-5 Dec 2015, Raja Ramanna Centre for Advanced Technology, Indore. Topic-“<i>Reverse Saturable Absorption Studies in Polyindole-Enhancement of polymerization in its third order optical nonlinearities</i>”.</p> <p>[3] National seminar on Recent Advances in growth and characterization of Nonlinear optical crystals and nanomaterials, Department of Physics, Sacred Heart College, Chalakkudy , Kerala, Topic - “<i>Nonlinear Absorption Studies in Polyindole-Enhancement Effect of polymerization in its third order optical nonlinearities</i> ”. 6th and 7th of October 2015.</p> <p>[4] ICNM 2014 - International conference on Nanostructured</p>
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Sabna. M	<p>materials and nanocomposites, <i>Investigation of Size dependence of self-focusing in CdSe nano particles</i>, 19-21 Dec 2014, Mahathma Gandhi University.</p> <p>[5] DAE-BRNS National Laser Symposium (NLS-23), 3-6 Dec 2014, <i>Third order nonlinearity in certain polymers doped with Azobenzene chromophores</i>, Sri Venkateswara University, Tirupathy, AP.</p> <p>[6] NSFP-2014 - National Seminar on Facets of Physics, 6, 7 Nov 2014, Providence Women's college Calicut. Topic- <i>Intensity dependant nonlinear optical studies in functionalized Orthohydroxy azo polymers</i></p> <p>[7] NCAM-2014, National conference on Advanced materials, 16, 17 Oct 2014, SKV College, Trissure. Topic - <i>Two photon absorption and Degenerate four wave mixing studies in certain Indole derivatives doped with EVA</i></p> <p>(8) National seminar on "Trends in Chemistry", Department of Chemistry, MES Ponnani College. Topic - <i>Nonlinear optical studies in Functionalized Azo Polyvinyl Alcohol compounds</i>". September 3rd and 4th of 2014</p> <p>(1)'Higgs Bosons –A qualitative study', Meridian ,Interdisciplinary journal,ISSN 1204,2012.</p> <p>(2)National seminar on 'Photonics foundations and Frontiers', Dept. Of Physics, MES Ponnani College. Topic: 'Carbon nanotubes for Optical Limiting', on 13th and 14th October 2013.</p> <p>(3) National seminar on 'Contribution of Arabs to World Culture and Civilization', MES Ponnani College. Topic'Ibn Al Hayatham and his</p>
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	world of Science'
Students	
Awardees	Award
Abhishek viswanath	Sadguna award (2015-2016)
Sreelakshmi	5 th rank in MSc
Janisha	9 th rank in MSc
Jennifer & siddique ali	First prize in intercollegiate Quiz competition held at MES valanchery
Ameena Irfath	1 prize in story writing & 11 prize in English versification in C-zone
Ameena Irfath	II prize for essay writing competition during Golden jubilee celebration
Jennifer	I prize in Malayalam essay writing competition in C-zone
Anjali	kalatilakam
Abhishek viswanath & siddique ali	II prize in inter collegiate Quiz competition held at sacred heart college, chalakkudy
Abhishek viswanath & siddique ali	Quiz masters for history & politics department

24. List of eminent academicians and scientists/visitors to the department.

Name	Designation	Date(s) of Visit	Event/Occasion of Visit
Dr Mustafa	Associate Professor, Dept. Of Physics	14-05-13	Alumni meet
Prof.Purushothaman	Retd. Professor, SKVC, Thrissur		
Dr.M.Abdul Salam	Retd. Professor, SKVC, Thrissur	10-10-13	National seminar
Dr.V.P.N Nampoori	Emiretus, Professor Internationalschool of Photonics CUSAT	9-10-13	National seminar
Dr.C.P Girija vallabhan	Founder Director, ISP-CUSAT	9-10-13	National seminar
Dr.Rajesh Anto	Department of Vascular Surgery, Daya hospital	9-10-13	National seminar
Dr K. Candrasekharan	Department of Physics, NIT, calicut	10-10-13	National seminar
Dr Regi Philip	Associate Professor, RRI, Bangalore	10-10-13	National seminar
Dr.T.N.Narayanan	Scientist Fellow, Central	10-10-13	National

	Electrochemical Research Institute		seminar
Dr.P.A Subha	Associate Professor, Farooke college	11-12-13	Association inauguration
. Dr .P. Sethumadhavan	Associate Professor,Chelannur	9-02-13	Net coaching
. Dr.Suresh	H O D,Department of Physics,PSMO	6-03-13	Net coaching
Mrs. Anupama. T. V. IAS	Food Safety Commissioner&Additional Director of Tourism	11-10-13	M ES Golden Jubilee celebration
Prof K.Suresh babu	HOD,Govt college ,Madappally	13-10-13	M ES Golden Jubilee celebration
Dr.S.N.Potty	Scientist, C-MET-Thrissur	2-02-15	Association inauguration
Dr.Libu Alexander	Assistant Professor,Dept.of Physics(Calicutuniversity)	12-11-13	Association inauguration
. Dr.Jeevan Job Thomas	Scientific writer, Ad-hoc Professor, NIT Calicut	25-11-15	National science day
Dr. Shafakath Abdulla	King Khalid University, Saudia Arabia		Career guidance

25. Seminars/Conferences/Workshops organized and the source of funding (national/international) with details of outstanding participants, if any.

Event	Date	Source of Funding	Outstanding Participants
International			
National			
National seminar on "Photonics and frontiers"	October 9-10,2013	UGC	30

26. Student profile programme-wise:

Name of the Programme	Applications received*	Selected		Pass percentage	
		Male	Female	Male	Female
B.Sc(2013-14)					
B.Sc(2014-15)		11	23	50	88.8
B.Sc(2015-16)		8	26	100	85.7
B.Sc(2016-17)		13	34	-	-
M.Sc. (2013-14)		1	11	100	81.8
M.Sc. (2014-15)		3	9	0	100
M.Sc. (2015-16)		2	10	100	70

M.Sc. (2016-17)		4	10		
Ph.D.	NA				

* Average for the assessment period

27. Diversity of students. Percentage of student from

Programme	Same University	Universities within the State	Universities Outside the State	from other countries
B.Sc	NA	100%	0%	0%
M. Sc	100%	100%	0%	0%
Ph. D.	NA	NA	NA	NA

28. How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.

Exam/Fellowship	Number of Students
Civil Services	0
Defence Services	0
JRF	1
NET	3
SET	12
GATE	3
Pursuing Ph. D abroad with scholarship	1

29. Student progression

Student progression	Percentage against enrolled	
UG to PG	27%	
PG to M.Phil	Not Applicable	
PG to Ph.D	Not Applicable	
Ph.D. to Post-Doctoral	Not Applicable	
Employed	Campus selection	10%
	Other than campus recruitment	40%
Entrepreneurs	50%	

30. Present details of departmental infrastructural facilities with regard to

Category	Infrastructure Facility Available
Library	Adequate number of books have been catering the academic needs of the students of the Department is made available in the Department Library & College Library
Internet facilities for staff and students	All faculty have access to Wi-Fi Internet access
Total number of class room	3
Class rooms with ICT facility	1

Students' Laboratories	4
Research Laboratories	0

31. Number of students receiving financial assistance from college, university, government or other agencies.

Programme	No of Students	Total Amount Received
B.Sc	43	2,46000
M.Sc	15	80000
Ph.D.	0	0
Total		

32. Details on student enrichment programmes (special lectures / workshops / seminar) with external experts.

Sl. No	Event	Level	Date(s)	Experts Attended
1	Presentation on "organic solar cells"	university	June 2015	Dr.Devadas
2	ICCP 2016	Intercollegiate	28 sep 2016	Dr.Nisanth

33. Teaching methods adopted to improve student learning

- ICT enabled learner centred approach is followed

34. Participation in Institutional Social Responsibility (ISR) and Extension activities

- Students are members of the Palliative care unit of the college

35. Strengths, Weaknesses, Opportunities and Challenges (SWOC) analysis of the department and Future plans.

Strengths:

- Qualified and permanent teaching faculties.
- Most of the faculties are actively involved in research.

Weaknesses:

- Lack of equipments in MSc & BSc Labs
- Lack of ICT based class rooms.

Opportunities:

- MSc lab can be excelled to research lab

Challenges

- Insufficient number of lab assistants
- Lack of smart rooms
- Lack of spacious class rooms & laboratories.

Future Plans:

- Plan to conduct ICCCP'17, 'Inter collegiate Physics Project Competition '
- Plan to organize a National Seminar in connection with honouring ceremony of Dr. Jayakrishnan who is awarded with Ph. D.
- Plan to start a community based extension activity of collecting e-waste from the Ponnani municipality and sorting out the metal components.
- Plan to conduct a workshop on LED light fabrication.
- Plan to organize a workshop on 'Introduction to the use of analytical tools'

1. Name of the Department:

Department of English

2. Year of establishment:

1968

3. Names of programmes offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., D. Sc., D. Litt., etc.)

B. A ENGLISH LANGUAGE AND LITERATURE

4. Names of Interdisciplinary courses and the departments/units involved

None

5. Annual/semester/choice based credit system (Programme -wise)

B. A– CBCSS Mode

6. Participation of the department in the courses offered by other departments

The undergraduate students of the Department have option to opt for the Open Courses offered by the other departments in the College. Similarly, the students of other departments in the college can opt for the Open Courses offered by the English Department.

7. Courses in collaboration with other universities, industries, foreign institutions, etc.

None

8. Details of programmes discontinued, if any, with reasons:

No such programmes

9. Number of teaching posts sanctioned and filled:

	Sanctioned	Filled
Professor	0	0
Associate Professors	0	0
Asst. Professors	3	3
Others*	4	4

* Guest Faculty – 4, Visiting Faculty – 0, Adjunct Faculty – 0.

10. Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance:

Name	Qualification	Designation	Specialization	Experience (Yrs*)	No. of Ph.D. Students Guided (Last 4 Yrs)
Ms. Ameera V U	M.A NET JRF	Asst. Professor		4 years	Nil

Ms . Sameera Haneef	M.A BEd NET	Asst. Professor		4 years	Nil
Ms. Farisha VM	M.A BEd NET(JRF)	Asst. Professor		3 years	Nil
Ms. Thahsin Hussain	M.A NET	Guest faculty		3 years	
Ms. Sajeera	M.A B. Ed, NET	Guest faculty		2 years	
Ms. Shaheena Azeez	M.A	Guest faculty		2 years	
Ms. Sameena Noushad	M.A	Guest faculty		2 years	

*Including experience from previous institute

11. List of senior Visiting Fellows, adjunct faculty, emeritus professors

No such visiting faculty

12. Percentage of lectures delivered and practical classes handled (programme wise) by temporary faculty

Programme	% of Classes Taken by Temporary Faculty
B.A	40%
M.A	Nil

13. Student Teacher Ratio (Programme-wise)

Programme	Student Teacher Ratio
B.A	30 : 1

14. Number of academic support staff (technical) and administrative staff: sanctioned, filled and actual

Staff Type	Sanctioned	Filled	Actual
Academic support staff (Technical)	0	0	0
Administrative staff	0	0	0

* Temporary staff

15. Qualifications of teaching faculty with DSc/ D.Litt/ Ph.D/ MPhil / PG.

Name	Qualification	Specialization

16. Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies, project title and grants received project-wise.

Number of faculty with ongoing Research Projects	International	0
	National	3
Total grants received (in `)		2,20,000/-

Faculty (PI)	Project Title	Funding Agency	Grant Received (in `)
Ms. Ameera V U	Kerala Muslim Women Lives as Depicted in Literature, Film and History.	UGC	70,000/-
Ms . Sameera Haneef	Feminine nuances : an analysis of multifarious female sensibility presented in Mappilapattu	UGC	50000/-
Ms. Farisha VM	Writing back to the confused identity created by West on Muslim women.	UGC	1,00,000/-
Total Grant			2,20,000/-

17. Departmental projects funded by DST - FIST; UGC, DBT, ICSSR, etc. and total grants received

Faculty (PI)	Project Title	Funding Agency	Grant Received (in `)
xx	Xx	Xx	
Total Grant			Nil

18. Research Centre /facility recognized by the University

Recognized Research Centre/Nil

19. Publications:

Publication	Number
Publication per faculty	AMEERA. V.U 14 1. Colonialism and racism as an ancillary burden on childhood: an analysis of Toni Morrison's <i>Beloved</i> and <i>The Bluest Eye</i> , New

	<p>Perspectives on Postcolonial Literature, ISBN: 978-93-5087-032-3.</p> <ol style="list-style-type: none">2. The 'Condition of England Novels' and Victorian Women Novelists. The Criterion, Issue 12, pp.1–9, ISSN: 0976-81653. Shakespeare's Othello as a victim of miscegenation, Meridian, Vol. 2, pp. 90–94, ISSN: 2278-750X4. Grave exhumed to let the corpse speak: a subaltern reading of T.P. Rajeevan's <i>Paleri Manikyam: A Midnight Murder Story</i>, The Commonwealth Review, Vol. XXII, pp.130–141, ISSN: 0974-0473.5. Denied of Bright <i>Naaley</i>: a study of Arundhati Roy's <i>The God of Small Things</i>, Meridian, ISSN: 2278-750X6. Behind the Veil: A Journey into the lives of Pakistani Muslim Women through Qaisra Shaharaz' novels Meridian, ISSN: 2278-750X7. Match made in hell: Arabi Kalyanam and Mysore Kalyanam with reference to the movies Surumayitta Kannukal and Paadam onnu oru vilaapam Research Journal8. I am Male; female too: A study on transgender life with reference to the movies Ardhanari and Chanthupottu, Proceedings of UGC National Seminar, Department of English,
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	<p>MES Ponnani College</p> <p>9. Guardians of Sacred Glass Bowl: Women and Concept of Chastity with Reference to Malayalam Novels <i>Chemmeen</i>, <i>Rathi Nirvedam</i>, <i>Sugandi Enna Aandaal Devanayaki</i> and <i>Khasakkinte Ithihaasam</i> Research Journal of English Language and Literature, ISSN 2395 – 2636</p> <p>10. Marry him, Then Marry me: Nikah Halala and Malayalam Movies Impact: International Journal of Research in Humanities, Arts and Literature ISSN 2321-8878</p> <p>11. The influence of Arabic on English Language, Proceedings of UGC National Seminar, Department of Arabic, MES Ponnani College</p> <p>12. Modern Medicine And English Literature, Proceedings of International Conference, SRM University, Ghaziabad</p> <p>13. Shakespeare and Modern Medicine, Proceedings of UGC Sponsored Seminar, KG Joshi College of Arts, Thane</p> <p>14. Colonizing the Cultural Space: An Unfurling of the Veils of New Cultural Custodians for the East, Proceedings of International conference, Osmania University</p>
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	<p>Papers presented 11</p> <ol style="list-style-type: none">1. Colonialism and Racism as an ancillary burden on childhood: An analysis on Toni Morrison's <i>Beloved</i> and the <i>Bluest Eye</i> National Seminar on Perspectives on post colonial Literatures at Govt. College Mananthavady on 8 & 9 October 20122. 'Minorities Educational Development in Kerala' National seminar organised at Maulana Azad National Urdu University with the support of Ministry of Minority Affairs, Govt of India3. Education Empowerment of Muslim Women in Kerala, International Convention on Education organised by American Federation of Muslims of Indian Origin4. I am Male; female too: A study on transgender life with reference to the movies <i>Ardhanari</i> and <i>Chanthupottu</i>, National seminar at Ponnani MES College.5. Modern Medicine and English Literature, Inter National Seminar organized by Department of English and Foreign Languages, SRM University6. Reading Caught in the Internet, National seminar,
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	<p>Department of English, Avinashlingam University for Women, Coimbatore and English Language Teacher's Interaction Forum (ELTIF)</p> <p>7. Shakespeare and Modern Medicine National Seminar, Department of English KG Joshi College of Arts, Thane</p> <p>8. Wielding Manu's Sceptre: Incursion of Khap Panchayats into the Rightful Realm of Dalits National Seminar, Department of English, Govt College, Malappuram</p> <p>9. Colonizing the Cultural Space: An Unfurling of the Veils of New Cultural Custodians for the East: International conference, Osmania University</p> <p>10. The Influence of Arabic over English Language. National Seminar, Department of Arabic, MES Ponnani College</p> <p>11. Globalization in White Tiger. National Seminar, Dept of Hindi, MES Ponnani College</p> <p>Sameera Haneef – 5 1. The Invincible Archetype: The Subaltern Myth and Reality Presented in K.J Baby's Nadugathiga. New</p>
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Perspectives on Postcolonial Literatures (ISBN : 978-93-5087-032-3) 2012

2. The Odyssey of Life inside: an Analysis of Dalit marginalization in K.J Baby's Nadugathiga Wizcraft Journal of Language and Literature (ISSN 2319-4952 December 2012

3.The Uniqueness of Hybrid Ishal: Mappilappattu as the outcome of Amalgamated Culture, Meridian: A Biannual Journal of Interdisciplinary Studies and Research(ISSN2278-750X) January 2013

4. Animal Imagery in Quran: The Logic & Exactitude , Meridian : Special Edition A Biannual Journal of Interdisciplinary Studies and Research(ISSN2278-750X) 2014

5. Arabi Malayala Sahityathile Penperuma, Arabi Malayala Sahitya Padangal ISBN 978-9-3833991-6-1 2014

PAPERS PRESENTED

1.Careers in Advertising and Publishing, Regional Seminar on Career Paths for English Majors at Unity Women's College, Manjeri on 21 December 2011

2.The Stanger Within, National

	<p>Seminar on Perspectives on post colonial Literatures at Govt. College Manathavady on 8 & 9 October 2012</p> <p>3.The Discarded Middle age, National seminar on Hindee Kavithaa Kee Samkaalenataa at M.E.S Asmabi College Kodungallur on 27-09-2012</p> <p>4. Animal Imagery in the Quran: Logic and Exactitude on state level seminar on Quran and Science sponsored by Kerala State Higher Education council at M.E.S Asmabi College, P. Vemballur on 10 March 2014. Farisha VM</p> <ol style="list-style-type: none">1. Research Paper <i>'Imagined reality on silver screen: A study of the work and movie Pinjar'</i> has been accepted to be published in the Research Journal Misbah (ISSN),(Book Vol 2015)2. Research paper <i>'Broken verses : the plight of the Muslim women , they stopped being an individual and started being an entire religion'</i>, has been published in the Research Journal Misbah (ISSN),(Book Vol 2015) <ol style="list-style-type: none">1. The research paper <i>'Imagined reality on silver screen: A study of the work and movie Pinjar'</i> has been presented in the UGC National Seminar on 'Indian Literature and
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	Cinema' organised by the Department of Hindi, at MES College Nedumkandam on 13 th , and 14 th November 2014.	
	2. The research paper" Refugees at their own homeland: A study on the trauma created by war on the Palestinian people with special reference to the work <i>Mornings in Jenin.</i> has been presented in the UGC national seminar at Govt college Kattapana.	
Number of publications listed in International Database (For Eg: Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.)		
Monographs		
0		
Chapters in Books		
2		
Book	ISBN	Publisher
xx	xx	Xx
Edited Books		
1		
Book	ISBN	Publisher
xx	xx	Xx
Citation Index (Range)		
Source Normalized Impact per Paper – SNIP (Range)		
-		
SCImago Journal Rank – SJR (Range)		
-		
Impact Factor (Range)		
1-5		
h-index (Range)		
-		

20. Areas of consultancy and income generated

Area of Consultancy	Income Generated
Nil	Nil

21. Faculty serving in

Faculty Serving in	Number
National committees	
International committees	Nil
Editorial Boards	
Any other (please specify)	Nil

22. Student projects

Name of the Faculty	% of Students
Percentage of students who have done in-house projects including inter-departmental projects	100
Percentage of students doing projects in collaboration with other universities/industry/institute	Nil

23. Awards/recognitions received at the national and international level by

Faculty	0
Awardees	Award
xx	Xx
Students	0
Awardees	Award
xxx	Xxx

24. List of eminent academicians and scientists/visitors to the department.

Name	Designation	Date(s) of Visit	Event/Occasion of Visit
Teesta Setalvad	Social Activist	28/01/16	National Seminar
Dhaya Bhai	Social Activist	29/01/16	National Seminar
Ram Puniyani	Social Activist and Writer	28/01/16	National Seminar
Sarah Joseph	Social Activist and author	28/01/16	National Seminar
Kalki Subramanyam	Transgender activist And author	28/01/16	National seminar
Sunil Mohan	Transgender activist	28/01/16	National seminar
M.B Manoj	Dalit Activist	28/01/16	National seminar
Rekha Raj	Dalit Activist	28/01/16	National seminar
Shwetha Khatti	Social activist and research scholar	28/01/16	National Seminar
Dr. Jayasree	Researcher	29/01/16	National Seminar

Murukan Theruvoram	Social Activist	29/01/16	National Seminar
Narayan	Novelist	29/01/16	National Seminar
Sreeramakrishnan	MLA	28/01/16	National seminar
V.T Balram	MLA	29/01/16	National Seminars
Dr. Fazal Ghafoor	State President, MES	28/01/16 01/12/2016	National Seminar Quiz
Ms. Vineetha M.K	Asst Professor, KAHMUnity Women's College	20/02/2017	Career Guidance
Prof. Kusumam Joseph	Social Activist	07/092016	Mahaswetha Devi Commemoration
Mohammed Jabir	Faculty, King Khalid University	11/08/2016	Invited talk
Dr. Premkumar	Associate Professor, EMEA College, Kondotty		Association Inauguration
T.D Ramakrishnan	Novelist		Association Inauguration
Dr.T.Y Aravindakshan	Retired Professor of English		Association Inauguration
Dr Sajid Jamal	Trainer, TCI	20/06/2013	TCI Workshop
Vijayan	Trainer, TCI	20/06/2013	TCI Workshop

25. Seminars/Conferences/Workshops organized and the source of funding (national/international) with details of outstanding participants, if any.

Event	Date	Source of Funding	Outstanding Participants
International			
Nil			
National			

1	28/01/2016 29/01/16	UGC	Teesta Setalvad	Social Activist
			Dhaya Bhai	Social Activist
			Ram Puniyani	Social Activist a Writer
			Sarah Joseph	Social Activist a author
			Kalki Subramanyam	Transgen activist And autho
			Sunil Mohan	Transgen activist
			M.B Manoj	Dalit Activist
			Rekha Raj	Dalit Activist
			Shwetha Khatti	Social activist an research scholar
			Dr. Jayasree	Social Activist
			Murukan Theruvoram	Social Activist
			Narayan	Novelist
			Sreeramakrishnan	MLA
			V.T Balram	MLA
			Dr. Fazal Ghafoor	State President MES

26. Student profile programme-wise:

Name of the Programme	Applications received*	Selected		Pass percentage	
		Male	Female	Male	Female
B.A	44	8	13	6	13
	0	0	0	0	0
	0	0	0	0	0

* Average for the assessment period

27. Diversity of students. Percentage of student from

Programme	Same University	Universities within the State	Universities Outside the State	From other countries
B.A	100		0%	0%
			0%	0%
			0%	0%

28. How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.

Exam/Fellowship	Number of Students
Civil Services	0
Defence Services	0
JRF	0
NET	0
SET	0
GATE	0
Others (Specify)	0

29. Student progression

Student progression	Percentage against enrolled
UG to PG	50%
PG to M.Phil	Not Applicable
PG to Ph.D	Not Applicable
Ph.D. to Post-Doctoral	Not Applicable
Employed	Campus selection
	Other than campus recruitment
Entrepreneurs	

30. Present details of departmental infrastructural facilities with regard to

Category	Infrastructure Facility Available
Library	Adequate number of books have been catering the academic needs of the students of the Department is made available in the College Library
Internet facilities for staff and students	All faculty and students have access to Wi-Fi Internet access
Total number of class room	3
Class rooms with ICT facility	0
Students' Laboratories	0
Research Laboratories	0

31. Number of students receiving financial assistance from college, university, government or other agencies.

Programme	No of Students	Total Amount Received
B.A	0	0
	0	0
	0	0
Total		0

32. Details on student enrichment programmes (special lectures / workshops / seminar) with external experts.

Sl. No	Event	Level	Date(s)	Experts Attended
1	Seminar	National	28/01/2016 29/01/2016	Teesta Setalvad
				Dhaya Bhai
				Ram Puniyani
				Sarah Joseph
				Kalki Subramanyam
				Sunil Mohan
				M.B Manoj
				Rekha Raj
				Shwetha Khatti
				Dr. Jayasree
				Murukan
				Theruvoram
				Narayan
				Sreeramakrishnan
				V.T Balram
				Dr. Fazal Ghafoor
	Invited talk		20/02/2017	Vineetha .M.K
	Invited talk		07/09/2016	Prof Kusumam Joseph
	Invited talk		11/08/2016	Muhammed Jabir
	Invited talk			Dr. Premkumar
	Invited talk			T Ramakrishnan D
	Invited Talk			Prof

				Aravindakshan

33. Teaching methods adopted to improve student learning

- Power point presentation
- Screening of movies prescribed in the syllabus.
- Seminar presentations.
- Quiz programmes.
- Language lab

34. Participation in Institutional Social Responsibility (ISR) and Extension activities

- Ameera V U: Deputy Warden, Ladies Hostel
- Discipline Committee Member
- Women Cell Coordinator
- Sameera Haneef : Master trainer ASAP (Additional skill acquisition programme , An initiative of government of Kerala)
Additional chief Examiner
Convener media and public relations
 - Farisha VM Master trainer ASAP (Additional skill acquisition programme , An initiative of government of Kerala)

35. Strengths, Weaknesses, Opportunities and Challenges (SWOC) analysis of the department and Future plans.

Strengths:

- Dedicated faculty and hard working students
- Career oriented lectures

Weaknesses:

- No post graduate programme
- Non sanctioning of teaching posts in the UG main section.

Opportunities:

- Support from the government, higher education council, department of collegiate education, and UGC

Challenges:

- Developing a digital information hub on English language and literature.
- Equip the student by rigorous practice in their poor linguistic performance.

Future Plans:

- To promote the department to a PG department and to a research centre.
- To conduct Research oriented programmes and seminars every year.

1. Name of the Department:

Department of CHEMISTRY

2. Year of establishment:

2008

3. Names of programmes offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., D.Sc., D.Litt., etc.)B. Sc CHEMISTRY AND COMPLEMENTARY TO BSC.PHYSICS,
BSC.ZOOLOGY AND BSC.GEOLOGY**4. Names of Interdisciplinary courses and the departments/units involved**

None

5. Annual/semester/choice based credit system (Programme-wise)

B. Sc.– CUBCSS Mode

6. Participation of the department in the courses offered by other departments

The undergraduate students of the Department have option to opt for the Open Courses offered by the other departments in the College. Similarly, the students of other departments in the college can opt for the Open Courses offered by the CHEMISTRY Department

7. Courses in collaboration with other universities, industries, foreign institutions, etc.

None

8. Details of programmes discontinued, if any, with reasons:

No such programmes

9. Number of teaching posts sanctioned and filled:

	Sanctioned	Filled
Professor	0	0
Associate Professors	0	0
Asst. Professors	4	3
Others*	1	1
* Guest Faculty – 3, Visiting Faculty – 0, Adjunct Faculty – 0.		

10. Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance:

Name	Quali-fication	Desig-nation	Specialization	Experien-ce (Yrs*)	No. of Ph.D. Students Guided (Last 4

					Yrs)
Ms. SOUMINI.C	M.Sc.CHEMISTRY, NET-JRF,B.Ed.	Asst. Professo r	CHEMISTRY	6	Nil
Ms.SOUMYA.C.C	M.Sc.CHEMISTRY, NET-JRF,B.Ed.	Asst. Professo r	CHEMISTRY	4+2	Nil
Mr.UMESH.C.V.	M.Sc.CHEMISTRY, NET,B.Ed.	Asst. Professo r	CHEMISTRY	4+2	Nil
Ms.SURAJA.P.V	M.Sc.CHEMISTRY, Ph.D.	F.D.P.S UBSTI TUTE	CATALYSIS	2+2	Nil
Ms.JASEELA.P.V	M.Sc.CHEMISTRY, NET,B.Ed.	GUEST LECTU RER	CHEMISTRY	2	Nil
Ms.JASNA.K.	M.Sc.CHEMISTRY, NET,B.Ed.	GUEST LECTU RER	CHEMISTRY	2months	Nil

*Including experience from previous institute

11. List of senior Visiting Fellows, adjunct faculty, emeritus professors

No such visiting faculty

12. Percentage of lectures delivered and practical classes handled (programme wise) by temporary faculty

Programme	% of Classes Taken by Temporary Faculty
B.Sc	55%
M.Sc	Nil

13. Student Teacher Ratio (Programme-wise)

Programme	Student Teacher Ratio
B.Sc	40 : 1
M.Sc	
Ph.D.	

14. Number of academic support staff (technical) and administrative staff: sanctioned, filled and actual

Staff Type	Sanctioned	Filled	Actual
Academic support staff (Technical)	2	2	0
Administrative staff	0	0	0

* Temporary staff

15. Qualifications of teaching faculty with DSc/ D.Litt/ Ph.D/ MPhil / PG.

Name	Qualification	Specialization
Ms. SOUMINI.C	M.Sc.CHEMISTRY,	CHEMISTRY

	NET-JRF, B.Ed.	
Ms.SOUMYA.C.C	M.Sc.CHEMISTRY, NET-JRF, B.Ed.	CHEMISTRY
Mr.UMESH.C.V.	M.Sc.CHEMISTRY, NET, B.Ed.	CHEMISTRY
Ms.SURAJA.P.V	M.Sc.CHEMISTRY, Ph.D.	CATALYSIS
Ms.JASEELA.P.V	M.Sc.CHEMISTRY, NET, B.Ed.	CHEMISTRY
Ms.JASNA.K.	M.Sc.CHEMISTRY, NET, B.Ed.	CHEMISTRY

16. Number of faculty with ongoing/**COMPLETED** projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies, project title and grants received project-wise.

Number of faculty with ongoing Research Projects	International	0
	National	2
Total grants received (in RS.)		3,22,000/-

Faculty (PI)	Project Title	Funding Agency	Grant Received (in `)
Soumini.C	“Nanogold Dispersed Metal oxide Doped mesoporous silica for versatile organic Transformation”	UGC	1,45,000/- Sanctioned And Received
SoumyaC.C	“Synthesis and characterisation of conducting polymer composites to explore its anticorrosive properties”	UGC	185000/- Sanctioned 1,77,000/- Received

17. Departmental projects funded by DST - FIST; UGC, DBT, ICSSR, etc. and total grants received

Faculty (PI)	Project Title	Funding Agency	Grant Received (in `)
xx	xx	xx	
Total Grant			Nil

18. Research Centre /facility recognized by the University

Nil

19. Publications:

Publication			Number
Publication per faculty			6+3
Number of papers published in peer reviewed journals (national/international) by faculty and students			1+1
Number of publications listed in International Database (For Eg: Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.)			
Monographs			0
Chapters in Books			1
Book	ISBN	Publisher	
xx	xx	xx	
Edited Books			
Book	ISBN	Publisher	
xx	xx	xx	
Citation Index (Range)			1-5
Source Normalized Impact per Paper – SNIP (Range)			-
SCImago Journal Rank – SJR (Range)			-
Impact Factor (Range)			1-5
h-index (Range)			-

20. Areas of consultancy and income generated

Area of Consultancy	Income Generated
Nil	Nil

21. Faculty serving in

Faculty Serving in	Number
National committees	
International committees	Nil
Editorial Boards	1
Any other (please specify)	Nil

22. Student projects

Name of the Faculty	% of Students
Percentage of students who have done in-house projects including inter-departmental projects	100
Percentage of students doing projects in collaboration with other	Nil

universities/industry/institute

23. Awards/recognitions received at the national and international level by

Faculty	0
Awardees	Award
xx	xx
Students	
Awardees-	Award-

24. List of eminent academicians and scientists/visitors to the department.**2016**

Name	Designation	Date(s) of Visit	Event/Occasion of Visit
Mr. NAYEEM MULLUNGAL	Faculty , Dept of Marine Chemistry, Qatar University	15 July 2016	One day international converse on “ <i>Ocean Chemistry and Climate Change</i> ”
Dr..Harinarayanan.P	Research Assistant, Josef Stefan Institute, Slovenia	19 th August 2016	talk on ‘An Introduction to Plasma Chemistry for Material processing’

2015

Name	Designation	Date(s) of Visit	Event/Occasion of Visit
Dr P.V. Joseph Associate	Associate professor , Maharajas College Ernakulam	13/11/2015	Chemistry association is inauguration and A motivation class ”excel yourself”

2014

Name	Designation	Date(s) of Visit	Event/Occasion of Visit
Dr.K.GeorgeThomas	Professor and Dean,IISER , TRIVANDRUM	03/09/2014	UGC Sponsored national seminar on the topic “Recent Advances in Chemistry”
P. A. Joy	Scientist, NCL,Pune	04/09/2014	UGC Sponsored national seminar on the topic “Recent Advances in Chemistry”
Dr. S. Sugunan	Professor (Emeritus), Department of Applied Chemistry, Cochin University of Science and Technology, CUSAT	03/09/2014	UGC Sponsored national seminar on the topic “Recent Advances in Chemistry”
Dr. Poovathinthodiyil Raveendran	Reader, Department of Chemistry, University of calicut	04/09/2014	UGC Sponsored national seminar on the topic “Recent Advances in Chemistry”

Dr. Pradeepan Periyat	Assistant Professor, Department of Chemistry, University of Calicut	04/09/2014	UGC Sponsored national seminar on the topic "Recent Advances in Chemistry"
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25. Seminars/Conferences/Workshops organized and the source of funding (national/international) with details of outstanding participants, if any.

2016

Event	Date	Source of Funding	Outstanding Participants
International			
One day international converse on "Ocean Chemistry and Climate Change"	15 July 2016	PTA	Mr. NAYEEM MULLUNGAL, Faculty , Dept of Marine Chemistry, Qatar University
National/ State Level			
talk on 'An Introduction to Plasma Chemistry for Material processing'	19 th August 2016	Department Alumni	Dr..Harinarayanan.P , Research Assistant, Josef Stefan Institute, Slovenia

2015

Event	Date	Source of Funding	Outstanding Participants
International			
National/ State Level			
A motivation class "excel yourself"	13/11/2015	Chemistry Association	Dr P.V. Joseph, Associate professor, Maharajas College Ernakulam

2014

Event	Date	Source of Funding	Outstanding Participants
International			
National			
National seminar on the topic "Recent Advances in Chemistry"	03/09/2014 and 04/09/2014	UGC	Dr.K.George Thomas, Professor and dean, IISER , TRIVANDRUM Dr. S. Sugunan, Professor (Emeritus), Department of Applied Chemistry, Cochin University of Science and Technology, CUSAT, Dr. Poovathinthodiyil Raveendran, Reader, Department of Chemistry, University of Calicut, Calicut University, P. A. Joy, Scientist, NCL, Pune, Dr. Pradeepan Periyat, Assistant Professor, Department of Chemistry, University of Calicut

26. Student profile programme-wise:

Name of the Programme	Applications received*	Selected		Pass percentage	
		Male	Female	Male	Female
B.Sc-2016-2019	--	8	39	--	--
B.Sc-2015-2018	--	4	32	--	--
B.Sc-2014-2017	--	4	29	0%	88%
B.Sc-2013-2016	--	7	27	50%	87.5%

* Average for the assessment period

27. Diversity of students. Percentage of student from

Programme	Same University	Universities within the State	Universities Outside the State	from other countries
B.Sc	NA	100%	0%	0%
M. Sc				
Ph. D.				

28. How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.

Exam/Fellowship	Number of Students
Civil Services	0
Defence Services	0
JRF	NA
NET	NA
SET	NA
GATE	NA
Others (Specify)	0

29. Student progression

Student progression	Percentage against enrolled
UG to PG-2016	39%
UG to PG-2015	53%
UG to PG-2014	58%
PG to M.Phil	Not Applicable
PG to Ph.D	Not Applicable
Ph.D. to Post-Doctoral	Not Applicable
Employed2016	
Campus selection	3%
Other than campus recruitment	3%
Employed2015	
Campus selection	10.5%
Other than campus recruitment	5%
Employed2014	
Campus selection	3%
Other than campus recruitment	3%

Entrepreneurs	0
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30. Present details of departmental infrastructural facilities with regard to

Category	Infrastructure Facility Available
Library	Adequate number of books have been catering the academic needs of the students of the Department is made available in the College Library and in the Department library.
Internet facilities for staff and students	Internet facility is available in the department
Total number of class room	3
Class rooms with ICT facility	0
Students' Laboratories	1
Research Laboratories	0

31. Number of students receiving financial assistance from college, university, government or other agencies.

Programme	No of Students	Total Amount Received
B.Sc		
M.Sc	0	0
Ph.D.	0	0
Total		0

32. Details on student enrichment programmes (special lectures / workshops / seminar) with external experts.

2016

Sl. No	Event	Level	Date(s)	Experts Attended
1	One day international converse on "Ocean Chemistry and Climate Change"	International	15 July 2016	Mr. NAYEEM MULLUNGAL Faculty, Dept of Marine Chemistry, Qatar University
2	Talk on 'An Introduction to Plasma Chemistry for Material processing'	Statelevel	19 th August 2016	Dr..Harinarayanan.P Research Assistant, Josef Stefan Institute, Slovenia

2015

Sl. No	Event	Level	Date(s)	Experts Attended
1	Chemistry association is inauguration	Statelevel	13/11/2015	Dr P.V. Joseph Associate professor, Maharajas College Ernakulam

2	A motivation class "excel yourself"	Statelevel	13/11/2015	Dr P.V. Joseph Associate professor , Maharajas College Ernakulam
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2014

Sl. No	Event	Level	Date(s)	Experts Attended
1	UGC Sponsored national seminar on the topic "Recent Advances in Chemistry"	National	03/09/2014 and 04/09/2014	Dr.K.GeorgeThomas,Professor and dean,IISER ,TRIVANDRUM Dr. S. Sugunan, Professor (Emeritus), Department of Applied Chemistry, Cochin University of Science and Technology, CUSAT, Dr. Poovathinthodiyil Raveendran,Reader, Department of Chemistry, University of calicut, Calicut University, P. A. Joy,Scientist,NCL,Pune, Dr. Pradeepan Periyat,Assistant Professor, Department of Chemistry,University of Calicut

33. Teaching methods adopted to improve student learning

- Lecturing
- Demonstration
- Use of models, diagrams, tables, graphs, and charts by instructor in teaching
- ICT method
- Group discussion
- Presentation by experts instructors from outside
- Presentation by a panel of students

34. Participation in Institutional Social Responsibility (ISR) and Extension activities

- Water analysis of borewell water in the coastal area of Ponnani Thaluk have been done in the period 2016-17.
- Water analysis of well water in the coastal area of Ponnani Thaluk have been done in the period 2015-16.
- Exhibition –"CHROMA 14" on 2nd and 3rd december in which a numberS of magic and funny items were exhibited .It aims to improve the technical skill of high school and +2 students.

35. Strengths, Weaknesses, Opportunities and Challenges (SWOC) analysis of the department and Future plans.**Strengths:**

- Students – most of the students are above average
- Strong Alumni
- Department library

- Equipments for chemical reactions and analysis purchased with the help of UGC Minor projects

Weaknesses:

- Lack of smart class room and seminar hall
- Lack of required number of faculties- 1 post is yet to be sanctioned

Opportunities:

- Well electrified Instrumentation laboratory will help to maintain the safety of costly Equipments and help the students to use it properly. Now these are placed in shelves unsafely.
- Separate lab for complementary and main will help the students to utilise the facilities properly.

Challenges:

- Poor Laboratory Facility– complementary and main are adjusted in a single lab
- Lack of Wi-Fi facility

Future Plans:

- Lab extention and renewation
- Arranging an international seminar
- To Provide more oppurtunities to the students to visit CSIR laboratories and to participate in seminars in universities.

