



# Central University of Kerala

Established by the Parliament of India vide the Central University Act, 2009(No.25 of 2009)

Kasaragod, Kerala, India, 671123

## DEPARTMENT OF GEOLOGY

No. CUK/GEO/BOS/MIN/2021/01

Dtd: 17/08/2021

### **Minutes of the 2<sup>nd</sup> Meeting of the 2<sup>th</sup> Board of Studies in Geology held online at 10.00 a.m. on 17/08/2021**

The Department of Geology, Central University of Kerala conducted the Board of Studies (BoS) meeting on 17<sup>th</sup> August, 2021. It was the Second BoS meeting of the second Board of Studies. Due to the COVID-19 pandemic situation the meeting was conducted through online via Google Meet platform. The panel members included invited subject experts, Head of the Department, internal members and department faculties as special invitee. The attendees of the meeting were as follows: -

#### **BoS Attendees:**

##### **Invited subject experts**

- Prof. (Dr.) Rajneesh Bhutani, Professor, Department of Earth Sciences, Pondicherry University
- Prof. (Dr.) Rajesh Raghunath, Professor, Dept .of Geology, University of Kerala,
- Prof. (Dr.) Prakash Narasimha, K.N., Professor, Department of studies in Earth science, University of Mysore, Manasagangotri
- Dr. A. Anil Kumar, Director, Marine & Coastal Survey Division, Geological Survey of India, Manglalur.

##### **Internal members from the Central University of Kerala**

- Dr. Pratheesh P., Assistant Professor and HOD (i/c), Dept. of Geology.
- Dr. Sijinkumar A.V., Assistant Professor, Dept. of Geology.
- Dr. S. Anbazhagi, Assistant Professor, Dept. of Environmental Science.

##### **Special invitee from the Central University of Kerala**

- Dr. Sandeep K., Assistant Professor, Dept. of Geology.
- Dr. Chandan Kumar B., Assistant Professor, Dept. of Geology.



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The BoS meeting started with the welcome address by Dr. Pratheesh P., Head of the Department (i/c). Dr. Pratheesh P. gave a brief introduction on the objectives of the BoS meeting. Thereafter, he welcomed all experts and faculty to the meeting, and briefed the agenda of BoS meeting.

The agenda for discussion in the BoS meeting was proposed by the Head of the Department. The main items discussed in the BoS are given below:

- (a) The inclusion of programme outcome and course outcomes in the syllabus of department of geology, central university of Kerala thereof.
- (b) Consider the revised syllabus for 2021 admission
- c) Inclusion of employment oriented courses in syllabus

The details of agenda-wise discussion and the final recommendation by the BoS are given below.

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### **Agenda 1: The inclusion of programme outcome and course outcomes in the syllabus of department of geology, central university of Kerala thereof.**

Dr. Pratheesh P. has explained the Faculty Council discussion regarding inclusion of programme outcome and course outcomes in the syllabus. Then Dr. Pratheesh P. invited the Board of Studies opinion. BoS members have accepted the proposed programme outcome and course outcome. Prof. Rajneesh Bhutani opined that there should be some integration of thinking skills in the programme outcome.

**Recommendation:** Following a detailed discussion on the contents, the members approved the inclusion of programme outcome and course outcomes in the Department of Geology, Central University of Kerala curriculum.

### **Agenda 2: Consider the revised syllabus for 2021 admission.**

Dr. Pratheesh P. has presented the revised syllabus for 2021 along with proposed programme structure. BoS members have accepted the proposed programme structure with some small suggestions.



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Prof. Rajneesh Bhutani pointed that Geochemistry was missing from the curriculum, which is very much essential for an earth science. After a long discussion, BoS has decided to incorporate Geochemistry as a compulsory elective paper. Prof. Prakash Narasimha has suggested the usage of 'Planetary Sciences' instead of 'planetary Geosciences'. Dr. A. Anil Kumar has suggested a title change for Oceanography as 'Oceanography and Marine Geology'. Prof. (Dr.) Rajesh Raghunath has recommended some modifications in sequence stratigraphy. Apart from this BoS has recommended a number of additions in the core course discussion.

**Recommendation:** After a detailed discussion on the revised syllabus, the members unanimously approved the new syllabus for MSc Geology programme in Department of Geology Central University of Kerala. All the recommendations from the experts have incorporated in the revised syllabus.

### **Agenda 3: Inclusion of employment oriented courses in syllabus.**

Dr. Pratheesh P. has explained the feedback received from the Alumni through the Alumni Coordinator, on the inclusion of employability oriented courses. He also pointed that the faculty council has discussed the same and incorporated a new core course 'Geospatial Technology and Engineering Geology' in the proposed syllabus. BoS had a fruitful discussion on the syllabus framework of the newly inducted course.

**Recommendation:** Following a detailed discussion on the contents, the members approved inclusion of 'Geospatial Technology and Engineering Geology' as core course in the proposed curriculum.

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After this, overall agenda discussed in the BoS were summarised by Dr. Pratheesh P. Thereafter, Dr. Sijinkumar A.V. offered the vote of thanks, which concluded the BoS meeting.

**Dr. Pratheesh P.**

Head (i/c), Department of Geology

**CENTRAL UNIVERSITY OF KERALA  
DEPARTMENT OF GEOLOGY  
M.Sc. GEOLOGY**

Course Code	EGE 5301	Semester	III
Course Title	Economic Geology		
Credits	3	Type	Core

This is an experimental and employability based skill development course for mineral exploration.

#### *Course Description*

Economic geology is a professional skill development course that deals with the discovery of economic mineral deposits. The economic mineral deposits are the backbone of any nation's economy. A country with significant economic mineral deposits can be a wealthy nation if it has proper technology, manpower and application strategies. The course in economic geology aims to train the students in the professional and academic skills of an economic geologist. This course deals with the economic mineral genesis, global mineral laws and the mineral laws of India, mineral economics and mineral resource exploration techniques.

#### *Course Outcome*

By the end of the course, students are expected to be able to:

- Demonstrate mastery of the terminology of economic geology
- Demonstrate confidence and accuracy in identifying important ore minerals in hand specimens, in outcrop, and under the microscope, and apply the theories to the solution of problems in the field.
- Synthesis observations, evidence and theory to recognise and explain similarities and differences between different ore mineral groups.
- Discuss with confidence the theories, principles and outstanding controversies related to commercial mineral deposits.
- Conceive, design, execute, critique, revise, document and present an original research project and an independent program related to economic geology

#### *Course Structure*

##### *Module - 1*

Mineral resource crisis, factors controlling mineral availability, minerals and global economic patterns, future of ore deposit geology; Geology of ore deposits – classification and deposit models. Textures of ore and gangue minerals; Paragenesis, zoning; Magmatic ore deposits; Hydrothermal ore deposits – magmatic and orogenic environments, sedimentary environments; Ore deposits formed in sedimentary environments; Supergene ores and supergene overprinting of ores.

##### *Module - 2*

Mineral law and land access: National Mineral Policy – MM (R & D) Act, 1957 – procedures for grant of mineral concessions in India; Types of land and mineral ownership in different countries; Exploration versus exploitation concessions. Mineral Economics: History and structure of the mineral industry; Profits in the mineral industry; Mineral taxation and mineral profits; Mineral commodity prices; Distribution of profits. Law of the Sea Treaty – marine mineral resources.

##### *Module - 3*

Mineral resources and exploration; search for ore deposits and chances of success – geological, geochemical, geophysical, drilling, sampling and other field techniques; Remote sensing applications in mineral exploration; Surveying and exploration; statistical treatment of exploration data and computer applications.

#### *Evaluation & Grading*

- Lab Assessment – 10%
- Skill development (Analytical, Writing and Presentation) – 10%
- Class Test – 20%

- **End Semester Assessment – 60%**

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