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

Course Code	EGE 5292	Semester	II
Course Title	Sedimentology and Palaeontology		
Credits	3	Type	Core

This is a participatory, experimental and employability based skill development course for Microfossils identification and natural gas exploration

Course Description

The course deals with various sedimentological and paleontological techniques like sieve, pipette analysis for grain size determination and microfossils studies. It will provide an understanding of plotting, analysis and interpretation of sedimentary data to infer depositional environment. The course also includes megascopic and microscopic identification of sedimentary rocks.In Paleontology, students will be trained in sample processing for microfossil studies and identification of various microfossil groups.

Course Outcome

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

- Perform grain size analysis of sediment samples using sieving and pipetting techniques.
- Calculation of various grain size statistical parameters, plotting the data and interpretation of depositional environment of sediments.
- Identify and classify the sedimentary rocks based on hand specimen and microscopic examination of thin sections.
- Perform sampling, processing and extraction of micro fossils from sediments.
- Identification of various microfossil groups and its application in geological studies.

Course Structure

Module - 1

Sieve analysis, plotting and interpretation of data (Trask method & Folk and Ward method). Estimation of statistical parameters - mean, skewness, kurtosis and standard deviation (sorting). Pipette analysis and estimation of silt and clay content. Plotting of gravel-sand-mud and sand-silt-clay data in triangular coordinate sheets. Interpretation of depositional environment.

Module – 2

Study and description of hand specimens and thin sections of conglomerate, breccia, sandstone, limestone, silt stone and shale.Sample processing techniques and separation of microfossils from matrix and marine sediments.

Module – 3

Identification of the following types of microfossils (calcareous and siliceous):Planktonic foraminifera, Benthic foraminifera, Ostracods, Pteropods and Radiolaria.Identification and separation of important species of planktonic foraminifera.

Evaluation &Grading

Lab assessment – 10 %
Skill development (Analytical and lab skills) – 10%

Class Test – 20%

End Semester Assessment – 60%

References

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