

| 20PEB127P | | | | | SEDIMENTARY AND PETROLEUM GEOLOGY PRACTICAL | | | | | |
|-----------------|---|---|---|------------|---|----|----|-----------|---------|-------------|
| Teaching Scheme | | | | | Examination Scheme | | | | | |
| L | T | P | C | Hours/Week | Theory | | | Practical | | Total Marks |
| | | | | | MS | ES | IA | LW | LE/Viva | |
| 0 | 0 | 2 | 1 | 2 | 0 | 0 | 0 | 50 | 50 | 100 |

COURSE OBJECTIVES

- Demonstrate the need for studying reservoir rocks and maps.
- Demonstrate the way to prepare various maps.
- Improve skills to study subsurface structure. .
- Support in opting for more advanced study of reservoir modelling and basement mapping

LIST OF EXPERIMENT

1. Study of Sedimentary rocks in Hand Specimen: Sandstone – Detailed study of Different types of Sandstone, Ex. Arkose, Arenite, Wacke with respect to texture (grain size, shape and angularity/roundness), sorting, presence/absence of cement/matrix), porosity, permeability, and their depositional environment.
2. Shale – Detailed study of different types of shales (glauconitic, fossiliferous, and carbonaceous) & their depositional environment.
3. Limestone- Detailed study of different types of Limestone and their depositional environment).
4. Study of shapes of pebbles.
5. Grain size analysis of sediment (Mean, Median, Standard deviation, Skewness, Kurtosis).
6. Study of thin sections of sedimentary rocks (shale, sandstones, limestone) vis-à-vis their porosity and permeability.
7. Study of Isochore maps and construction of sections.
8. Study of Isopach maps and construction of sections.
9. Construction of panel and fence diagrams

COURSE OUTCOMES

On completion of the course, student will be able to

CO1- Understand different minerals in hand specimen

CO2- Analyze silicates in hand specimen

CO3- Analyze fossils in hand specimen

CO4- Understand different types of rocks in hand specimen

CO5- Study clinographic projection of cube

CO6- Interpret topographic and geological maps

TEXT / REFERENCE BOOKS

1. Sengupta S.M.: Introduction to Sedimentology.
2. Kunt Bjorlykke: Sedimentology and Petroleum Geology.
3. F.J. Pettijohn: Sedimentary Rocks.
4. Sam Boggs Jr: Principals of Sedimentology and Stratigraphy.
5. Reineck H.E. and Singh I.B.: Depositional Sedimentary Environments; Springer.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max. Marks: 100

PART A: 10 Questions of 2 marks each-No choice

PART B: 2 Questions from each unit with internal choice, each carrying 16 marks

Exam Duration: 3 Hrs.

20 Marks

80 Marks