PG (CBCS) ODD SEMESTER EXAMINATION, 2022
held in MARCH, 2023

EARTH SCIENCE

3rd Semester

COURSE NO. ESCCC - 302

(Petroleum Geology)

Full Marks : 70
Pass Marks : 28

Time : 3 hours

The figures in the margin indicate full marks for the questions

Answer any five questions, taking one from each unit

UNIT-I

1. What is the difference between reservoir rock and traps? Write an illustrative account on Structural traps. 4+10=14

2. Write explanatory notes on the following: 7x2=14

   a) Source rock types
   b) Organic carbon in sediments.

(Turn Over)

UNIT-II

3. What is mud engineering? Write on the main functions and components of drilling fluids. Add a note on oil well drilling. 2+7+5=14

4. Compare and Contrast the following pairs: 5+5+4=14
   a) Seismic signals and noise
   b) Free air and Bouguer anomalies
   c) Common depth and common midpoints.

UNIT-III

5. What are resistivity and SP logs? Discuss their principles and applications giving neat sketches. 4+10=14

6. Write explanatory notes on the following: 7x2=14
   a) Porosity logs
   b) Natural gamma ray log

UNIT-IV

7. Outline various non thermal EOR methods and explain polymer flooding giving neat sketches. 7+7=14

8. Discuss the following: 7+7=14
   a) Microbial EOR processes
   b) CO_2 flooding

UNIT-V

9. Outline the geology, reservoir types and structure of the following: 7x2=14
   a) Bombay High
   b) Digboi Oil field

10. Write explanatory notes on the following: 7x2=14
   a) Gas hydrate
   b) Coal Bed Methane

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