

Total No. of Questions : 10]

SEAT No. :

P1096

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B.E. (Petrochemical Engineering)

**a - PETROLEUM EXPLORATION AND PRODUCTION OPERATIONS
(2008 Course) (Semester - II) (412411) (Elective - IV)**

Time : 3 Hours]

[Max. Marks : 100

Instructions to the candidates:

- 1) *Answers of each section should be written in separate answer books.*
- 2) *Figures to the right indicate full marks.*
- 3) *Draw suitable diagrams wherever necessary.*

SECTION - I

Q1) a) Describe different parameters of a petroleum system with the help of a cross sectional view of a sedimentary basin. [10]

b) How is pattern recognition helpful in seismic interpretation. [5]

OR

Q2) a) Explain stratigraphic traps with the help of neat sketches. [10]

b) What are different methods of calculation of reserves? [5]

Q3) How porosity is estimated using different logs? [15]

OR

Q4) Write in brief on reservoir drive mechanism. [15]

Q5) Write notes on any four of the following: [20]

- a) Types of subsurface water
- b) Different sources of subsurface data
- c) Oil differential
- d) Abnormal pressure
- e) Subsurface maps.
- f) Relative permeability

P.T.O.

SECTION - II

- Q6)** a) Different basic components of a rotary rig with the help of a neat diagram. [10]
b) Explain the relationship between mud weight and borehole stability. [5]

OR

- Q7)** a) Describe the following situations, [9]
Stuck pipe, fishing, and loss circulation
b) Draw and explain openhole completion with zonal isolation. [6]

- Q8)** a) What are major workover problems? [5]
b) Draw and describe typical configuration of a gas lifted well. [10]

OR

- Q9)** a) Tabulate different types of artificial lift methods. [5]
b) Explain with the help of a neat sketch Steam Assisted Gravity Drainage (SAGD) [10]

Q10) Answer in brief Any Five of the following: [20]

- a) Nodal Analysis
- b) Well Intervention
- c) Reservoir efficiency
- d) Inflow Performance Relationship, IPR
- e) Improved oil recovery
- f) In Situ Combustion
- g) Hydraulic Fracturing
- h) Simple Gathering Station
- i) CBM

