

Code No: RT42271

**R13**

**Set No. 1**

**IV B.Tech II Semester Regular/Supplementary Examinations, April - 2018**  
**PETROLEUM ECONOMICS AND REGULATIONS & POLICIES**

**(Petroleum Engineering)**

**Time: 3 hours**

**Max. Marks: 70**

*Question paper consists of Part-A and Part-B*

*Answer ALL sub questions from Part-A*

*Answer any THREE questions from Part-B*

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**PART-A (22 Marks)**

1. a) What is OPEC? and also name the member countries associated with it. [4]
- b) Define the three fundamental principles used for performing investment analysis. [3]
- c) Write a brief note on (i) T.E.A.C (ii) T.C.C [4]
- d) Define the detrimental parameters in evaluating the performance and the economics of Gas-Oil Separation Plant. [4]
- e) Mention the environmental impacts during oil and gas transportation. [3]
- f) What are the functions of DGH? [4]

**PART-B (3x16 = 48 Marks)**

2. a) Write a brief note on:  
(i) Concession contracts (ii) Joint Venture Contracts  
(iii) Service Contracts (iv) Production Sharing Contracts. [8]
- b) Describe the Environmental impact of energy industry. [8]
3. a) What is depreciation and depletion? Explain the methods used for determining depreciation. [8]
- b) Write a short note on : (i) R.O.I (ii) P.P (iii) D.C.F.R (iv) N.P.V [8]
4. a) Describe the three important points that concerns the Break Even Analysis and also mention the three main components of Break Even Analysis. [8]
- b) Solve the following:  
A refiner defines that the total cost of producing Q barrels of Gasoline per day is given by  $TQ = 5000 + 3Q$   
The revenue (in thousands of rupees) from selling Q barrels of gasoline per day is  $TR = 6Q$ 
  - (i) Find the breakeven point.
  - (ii) What is the cost and revenue at the breakeven point?
  - (iii) How many barrels of gasoline must be produced and sold in order to earn a profit of Rs.1,35,25,000? [8]

5. Solve the following :
- Technical Data:  
Area = 1200 acres; Formation Thickness = 20ft; Average porosity = 20%  
Connate water = 25%; Formation Volume Factor = 1.3 RB/STB; Initial gas in solution (Rsi) = 650 SCF/STB.  
Economic Data:  
Sale value of oil = Rs 5525/bbl; Tax = 4.6%; Operating Cost = Rs 3055/bbl
- (i) Calculate the Oil in place; (ii) Calculate total gas in solution  
(iii) Calculate gross income (iv) Calculate production taxes  
(v) Calculate Operating Costs (vi) Calculate Net Income. [16]
6. a) Define Cash flow analysis with a graphical illustration. [8]  
b) Management of an oil company is considering buying a reverse-osmosis desalination unit. The installed cost of the unit is Rs.7,80,060, its lifetime is 10years and the salvage value is Rs.1,30,010, Calculate cost of the perpetual service of this unit, assuming the interest is compounded at 6% annually. [8]
7. Explain about regulatory and legal framework of oil and gas in India. [16]