

Code No: **R42271****R10****Set No. 1****IV B.Tech II Semester Supplementary Examinations, April - 2018****PETROLEUM ECONOMICS POLICIES AND LAW****(Petroleum Engineering)****Time: 3 hours****Max. Marks: 75****Answer any FIVE Questions
All Questions carry equal marks***********

1. a) Write a complete description of stages of petroleum industry. [8]
b) Write a short note on bid evaluation criteria of an oil and gas asset. [7]
2. a) Define Interest and its classification along with formulae. [7]
b) Calculate the effective interest rate, assume that a short-term loan for 1 year only could be arranged for an oil company in temporary distress. The company needs \$100,000 for immediate working capital at either a nominal rate of 12% compounded monthly or a nominal rate of 15% compounded semiannually. The oil company wants to know which arrangement would provide the oil company with the lower debt at the end of the short term loan period. [8]
3. a) A sum of \$1000 is defined into an account where the interest rate is 10%. Compare the future values of the deposit for the two cases of simple and compound interest after 4 years. [7]
b) Compare "Straight line and Sinking fund" with "Declining balance and sum of digits" methods for depreciation. [8]
4. a) The capital cost of a small portable pump is \$7,000, with a lifetime of 20 years. If money can be invested at 6% (annual interest rate), calculate the annual depreciation costs and the annual capital recovery and compare between the two values. [8]
b) An oil-exploration company plans to take over offshore operations 7 years from now. It is desired to have \$250,000 by that time. If \$100,000 is available for investment at the present time, what is the annual interest rate the company should require to have that sum of money? [7]
5. a) Suppose that the heat exchanger has a depreciable cost of \$60,000 and will last for, say, 20 million bbl. Calculate the annual depreciation cost of the heat exchanger if it is processing 600,000 bbl. yearly. [7]
b) Write a short note on "Replacement analysis". [8]
6. a) Write a brief description of "Present Value Method". [7]

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- b) For the following data estimate the depletion charge of using fixed % rate of 27.5% of net sales:
- a. The intangible development costs, excluding a \$1,000,000 bonus to land owner, all occur in the first year = \$8,000,000.
 - b. Depreciable capital such as casing, machinery, derricks, rigs, etc = \$45,000,000.
 - c. Estimated life of equipment = 9 years.
 - d. Assume that 1,500,000 bbl of crude oil are produced and sold the first year at \$100/bbl.
 - e. Assume the annual operating expenses (and others) = \$2,500,000. [8]
7. a) Write a short note on differential approach. [7]
- b) An automobile part had an original cost of \$17,000 and its lifetime is 5 years. Calculate the annual depreciation cost and book value using the S.D.D. The salvage value is taken to be \$2,000. [8]
8. a) Write a short note on crude oil pricing. [7]
- b) Briefly describe oil and gas rules and regulations in India. [8]