


Name:			
Enrolment No:			
UNIVERSITY OF PETROLEUM AND ENERGY STUDIES End Semester Examination, May 2022			
Course: Economics and life cycle concepts Program: B.Tech ADE Course Code: MEAD 4006		Semester: VIII Time : 03 hrs. Max. Marks: 100	
Instructions:			
SECTION A (5Qx4M=20Marks)			
S. No.	Question	Marks	CO
Q 1	Explain the steps in the process planning	4	CO1
Q 2	Clearly explain the method of deriving the selling price of a product	4	CO1
Q 3	Discuss the impact of inflation on investment decision	4	CO1
Q 4	Discuss the difference in evaluating alternatives of private and public organizations	4	CO1
Q 5	Differentiate between breakdown maintenance and preventive maintenance	4	CO1
SECTION B (4Qx10M= 40 Marks)			
Q 6	A manufacturer is offered two machines A and B. A is priced at Rs. 8,000 and maintenance costs are estimated at Rs. 500 for the first year and an equal increment of Rs. 100 from year 2 to year 5, and Rs. 1,500 for the sixth year and an equal increment of Rs. 500 from year 7 onwards. Machine B which has the same capacity is priced at Rs. 6,000. The maintenance costs of the machine B are estimated at Rs. 1,000 for the first year and an equal yearly increment of Rs. 200 thereafter. If the money is worth 15% per year, which machine should be purchased? (Assume that the scrap value of each of the machines is negligible at any year)	10	CO3
Q 7	A company has purchased a Xerox machine for Rs. 2, 00,000. The salvage value of the machine at the end of its useful life would be insignificant. The maximum number of copies that can be taken during its lifetime is 1, 00, 00,000. During the fourth year of its operation, the number of copies taken is 9, 00,000. Find the depreciation for the fourth year of operation of the Xerox machine using the service output method of depreciation.	10	CO4

Q 8	Two mutually exclusive projects are being considered for investment. Project A1 requires an initial outlay of Rs. 50,00,000 with net receipts estimated to be Rs. 11,00,000 per year for the next eight years. The initial outlay for the project A2 is Rs. 80, 00,000, and net receipts have been estimated at Rs. 20, 00,000 per year for the next eight years. There is no salvage value associated with either of the projects. Using the BC ratio, which project would you select? Assume an interest rate of 15%.	10	CO5
Q 9	<p>Suppose a 50-year old man is planning for his retirement. He plans to retire at the age of 60 and estimates that he can live comfortably on Rs. 40,000 per year in terms of today's rupee value. Let us assume the average inflation rate for the next 20 years is 7% per year. This is only an assumption. He can invest his savings at 20%, compounded annually. What equal amount should he save each year until he retires so that he can make withdrawals that will allow him to live as comfortably as he desires for 10 years beyond his retirement?</p> <p style="text-align: center;">OR</p> <p>What is the law of supply and demand? With the help of demand and supply curve, explain the factors influencing the demand and supply.</p>	10	CO2
SECTION-C (2Qx20M=40 Marks)			
Q 10	<p>(a) The cost of erecting an oil well is Rs. 1,50,00,000. The annual equivalent yield from the oil well is Rs. 30,00,000. The salvage value after its useful life of 10 years is Rs. 2,00,000. Assuming an interest rate of 18%, compounded annually, find out whether the erection of the oil well is financially feasible, based on the present worth method.</p> <p>(b) A person is planning for his retired life. He has 10 more years of service. He would like to deposit Rs. 30,000 at the end of the first year and thereafter he wishes to deposit the same amount (Rs. 30,000) with an annual decrease of Rs. 2,000 for the next 9 years with an interest rate of 18%. Find the total amount at the end of the 10th year of the above series.</p>	20	CO4
Q 11	<p>A company is planning to expand its business after 5 years from now. The expected money required for the expansion programme is Rs. 5,00,00,000. The company can invest Rs. 50,00,000 at the end of every year for the next five years. If the assured rate of return of investment is 18% for the company, check whether the accumulated sum in the account would be sufficient to meet the fund for the expansion programme. If not, find the difference in amounts for which the company should make some other arrangement after 5 years.</p> <p style="text-align: center;">OR</p> <p>An automobile company recently advertised its car for a down payment of Rs. 1,50,000. Alternatively, the car can be taken home by customers without making any payment, but they have to pay an equal yearly amount of Rs. 25,000 for 15 years at an interest rate of 18%, compounded annually. Suggest the best alternative to the customers.</p>	20	CO5