

(3 Hours)

[Total Marks :80

- N.B. : (1) Questions No. 1 is compulsory
(2) Solve any three out of remaining questions
(3) Draw appropriate diagrams, graphs etc. Wherever necessary
(4) Figures to the right indicate full marks.

1. Answer the following questions :

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- (a) Explain the concept of nominal and effective interest rates.
(b) Discuss any five determinants of Supply and Demand.
(c) Explain different types of taxes
(d) Explain the difference between Balance sheet and income statement.

2. (a) The initial installed cost for a new piece of equipments is Rs. 5 Lakh and its scrap value at the end of its useful is estimated to be 10 years. After the equipment has been in use for 4 years, it is sold for Rs. 350000/- The company which originally owned the equipment employs the SLM for determining depreciation cost . If the company had used an alternative method for determining depreciation costs the asset value for the piece of equipment at the end of 4 years would be Rs. 262000/-. The total income tax rate for the company is 34% of all gross earnings. Capital gains taxes amount to 34% of gain. How much net saving after taxes would the company have achieved by using the DBM instead of SLM?

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3. (a) A Heat exchanger has been designed for use in a chemical process. A standard types of H.E. with a negligible scrap value cost Rs. 1.5 lakh and will have useful life of 6 years. Another proposed H.E. of equivalent design capacity costs Rs. 2 Lakh but will have useful life of 10 yrs, and scrap value of Rs. 20,000/- Assuming an effective compound interest of 8% per year, determine which H.E. Is cheaper by comparing capitalised cost.

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(b) Draw and explain tree diagram showing cash flow for chemical industrial operation.

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4. (a) The original value of a piece of equipment is Rs. 11 lakh completely installed and ready to use. Its salvage value is estimated to be Rs. 1,00,000/- at the end of service life estimated to be 10 years Determine asset value of the equipment at the end of 5 years and 7 years. Using

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- (i) SLM
(ii) DBM
(iii) DDBM

[TURN OVER]

11/6/15

(b) The total capital investment for a chemical plant is Rs. 10,00,000/- and the working capital is Rs. 1,00,000/-. If the plant can produce an average of 3000 kg of final product per day, what selling price per kg of product would be necessary to give a turn over ratio 10. Production is carried out for 310 days per year. 10

5. (a) Consider the following sets of investment options with corresponding after tax cash flow in Lakhs of Rs. 14

Year option	0	1	2	3
A	-10.0	0	0	0
B	-10.0	5.9	6.9	7.9
C	-10.0	6.8	5.8	4.8
D	-10.0	5.0	6.0	7.0

- (i) Choose a suitable option based on NPV criteria at a rate of 8%
(ii) Choose an option based on discounted cash flow "rate of return" criteria.

5. (b) What is Break Even point (BEP) Explain in detail 6

6. A company has 3 alternatives investment options which are being considered. Because all three investment are for the same types of unit and yield the same service, only one at the investment can be accepted. The risk factors are the same for all cases. Company policies based on the current economics situation dictate that min annual return on the original investment of 15% after taxes must be predicated for any unnecessary investment interest on investment not included as a cost. Company policies also dictate that where applicable SLM is used and for time value of money interpretations, end of year cost and profit analysis is used. Land value and start up cost can be ignored. Given the following data. Determine. 20

- (a) Rate of return on initial investment.
(b) Min payout period with no interest charge.
(c) Discounted cash flow
(d) Net present value
(e) Capitalised cost