

Duration of the Paper: - 3 Hours

Instruction:-

1. Question No. 1 is Compulsory.
2. Attempt any three questions out of the remaining five
3. Figures to the right indicates full marks
4. Assume suitable data wherever necessary

Q. No. 1

- a. Explain factors affecting demand [05]
- b. Write causes of depreciation. [05]
- c. It is desired to borrow ` 5000 to meet a financial obligation. The money can be borrowed from loan agency at a monthly interest rate of 2 %. Determine the total amount of principal plus compound interest due after 3 years, if no intermediate payments are made. [05]
- d. What do you mean by fixed capital investment [05]

Q. No. 2

- a. A proposed manufacturing plant requires an initial fixed capital investment of ` 900000 and working capital of ` 100000. It is estimated that the annual income will be ` 800000 and annual expenses including depreciation will ` 520000 before income taxes. A minimum annual rate of 15 % before income taxes is required. Calculate
 - i. The annual rate of return before taxes
 - ii. The annual rate of return after taxes, if tax rate is 34 % of the pre-tax profit [10]
- b. Draw and explain the tree diagram for cash flow to an industrial operation [10]

Q. No. 3

- a. Derive an expression for amount of an ordinary annuity [08]
- b. Write a short note on types of insurances [06]

[06]

c. An accumulation account showed the following details

Date	Material Received	Cost	Balance
2 nd May 2018	2268 kg	2.87 ₹/kg	2268
15 th May 2018	4536 kg	2.95 ₹/kg	6804

Q. No. 4

- a. An equipment worth ₹ 20,00,000 is owned by a company 'A' which follows sum of the years digit method for depreciation. The life of the equipment is 10 years and its scrap value is ₹ 20,000. Company 'B' offers to buy the equipment after 'a' years of use. However company 'B' would use Declining balance method for valuation
- Should the offer of 'B' be accepted by 'A' after 'a=5 years' [10]
 - Should it be accepted after 'a=8 years'. [10]
- b. Discuss various types of capital cost estimates

Q. No. 5

- a. The purchased cost of 5 m³ SS tank in 2008 was ₹ 3,75,000. The tank is cylindrical with flat top and the bottom diameter is 2 m. If the entire outer surface of the tank is to be covered with 5 cm thick magnesia block, estimate the present total cost for the installed and the insulated tank on 1st January 2008, the cost for 5 cm magnesia block was ₹ 1000 per m³ while labour for installing the insulation was ₹ 200 per m³. What is the installed cost of the equipment in 2018 if the cost index in 2008 was 560, and in 2018 it is 979? [10]
- b. A heat exchanger has been designed for use in a chemical process. A standard type of heat exchanger has a negligible scrap value and costs ₹ 400,000. Its useful life is 6 years. Another proposed heat exchanger of equivalent design capacity costs ₹ 680,000, but will

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have a service life of 10 years and a scrap value of ` 80000. Assuming an effective compound interest rate of 8 % per annum, which heat exchanger should be selected based on capitalized cost? [10]

Q. No. 6

Write short notes on the following [Any four]

[20]

- a. Cost Accounting Procedure
- b. Balance sheet
- c. Two methods of profitability
- d. Break even analysis (BEP)
- e. Total Production Cost
