



# CBCS SCHEME

15AU752

## Seventh Semester B.E. Degree Examination, Jan./Feb. 2021 Engineering Economy

Time: 3 hrs.

Max. Marks: 80

- Note:** 1. Answer any FIVE full questions, choosing ONE full question from each module.  
2. Use of discrete interest factors table is allowed.

### Module-1

- 1 a. Explain how the problem solving process leading ultimately to decision making carried out, with a neat block diagram. (08 Marks)  
b. What are the difference between intuition and analysis? (04 Marks)  
c. Explain tactics and strategy with illustration. (04 Marks)

OR

- 2 a. Explain different types of law of returns. (08 Marks)  
b. Suppose you borrow Rs.8000 now, with the promise to repay the loan principal plus accumulated interest in four year at an interest rate of 10% per year, how much would you owe at the end of four years? (04 Marks)  
c. A saver plans to deposit Rs.2000 in a money market starting one year from now and wants to increase annual deposits by Rs. 1000/- each year for the following six years. The deposit earns of 9% annually. Determine what equal payment annuity would accumulate the same amount over the 7 years period. (04 Marks)

### Module-2

- 3 a. Explain the conditions for present worth comparisons. (06 Marks)  
b. An invertors can make three end of year of Rs.15,000/- which are expected to generate receipts of Rs.10,000/- at the end of year 4 that will increase annually by Rs.2500/- for the following 4 years. If the investor can earn a rate of return of 10% another 8 year investments, is this alternative attractive? (10 Marks)

OR

- 4 a. Explain comparison of assets that have unequal lives. (06 Marks)  
b. Two models of small machines perform the same functions. Type 1 machine has a low initial cost of Rs.9500/-, relatively high operating costs of Rs.1900/- per year more than that of type 2 machine and a short life of 4 years. The more expensive type 2 machine costs Rs.25,100/- and can be kept in service economically for 8 years. The scrap value from either machine of its life will barely cover its removal cost. Which is preferred when minimum rate or return is 8%? (10 Marks)

### Module-3

- 5 a. Explain in brief the three types of rates of return. (06 Marks)  
b. A farm house can be purchased for Rs.90,000 and the expected resale value after 20 years is Rs.60,000. If the annual rental income is Rs.11,800 and expenses Rs.4,700, what will be the rate of return earned on this farm house. (10 Marks)

OR

- 6 a. What is depreciation? List and discuss the cause of depreciation. (08 Marks)  
 b. A CNC machine costs Rs.30,00,000 is estimated to serve for 8 years after which its salvage value is estimated to be Rs.2,50,000. Find :  
 i) Depreciation fund at the end of the 5<sup>th</sup> year by fixed percentage method and declining balance method.  
 ii) Book value of the machine after 4<sup>th</sup> year and 6<sup>th</sup> year by declining balance method. (08 Marks)

Module-4

- 7 a. What is costing? List and explain components of cost. (08 Marks)  
 b. A firm is producing 100 units per day. The direct material cost is found to be Rs. 160, the direct labour cost is Rs.200 and factory overheads chargeable to it is Rs.250. If the selling expenses are 40% of the factory cost what must be the selling price of each unit to realise a profit of 15% of selling price? (08 Marks)

OR

- 8 a. Explain in brief various methods of allocation of overheads. (08 Marks)  
 b. A medium scale industry has its own machine shop with 15 lathes and 10 milling machines. Lathes occupy 45m<sup>2</sup> area while milling machine occupy 30m<sup>2</sup> area. For the previous financial year the industry has incurred the following costs.
- |                                 |              |
|---------------------------------|--------------|
| Building and depreciation rent  | Rs. 1,50,000 |
| Indirect Labour and material    | Rs. 4,50,000 |
| Insurance                       | Rs. 2,00,000 |
| Depreciation charges of lathes  | Rs. 1,50,000 |
| Depreciation charges of milling | Rs. 1,00,000 |
| Power consumption for lathes    | Rs. 2,00,000 |
| Power consumption for milling   | Rs. 1,50,000 |
- Find the machine hour rate for lathes and milling machines if they worked for 25,000 hours and 20,000 hours respectively. (08 Marks)

Module-5

- 9 a. Explain briefly types of source of finance. (08 Marks)  
 b. The company X having certain reserves and surplus has the following details as on 31st Dec. 2017.

Dividend payable	72,000	Debtors	1,60,000
Bank balance	10,000	Bills payable	20,000
Equity shares	2,00,000	Plant and equipment	80,000
Provision for taxes	40,000	Bills receivable	20,000
Stock	77,000	Creditors	55,000
8% preference shares	1,35,000	General reserve	40,000
Land and building	2,00,000	Cash in hand	15,000

Prepare a balance sheet as on 31<sup>st</sup> Dec., 2017.

(08 Marks)

OR

- 10 a. What is profit planning? What are the objectives of profit planning? (06 Marks)  
 b. What are the types of budgets? Explain with examples. (08 Marks)  
 c. What are the dangers of budgeting? (02 Marks)

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