ONE TIME EXIT SCHEME

10ME71

USN ☐☐☐☐☐☐☐☐☐☐

Seventh Semester B.E. Degree Examination, April 2018
Engineering Economy

Time: 3 hrs.　　　　　　　　　　　　　　　　　　　　　　Max. Marks:100

Note: 1. *Answer any FIVE full questions, selecting*
atleast TWO questions from each part.
　　　2. *Use of discrete interest factors table is allowed.*

PART – A

1 a. Briefly explain the problem solving process with diagram. **(08 Marks)**

　b. Explain briefly:
　　i) law of demand
　　ii) Law of supply
　　iii) Law of returns **(06 Marks)**

　c. A person buys a car with Rs.2,50,000 as loan from bank and Rs.1,00,000 as down payment. Person makes equal monthly repayment of Rs.10,000 to bank to clear a loan for a period of 3 years. After making the last payment he sells the car for Rs.2,00,000. Draw the two cash flow diagram (CFD) from the barrowers point of view and from bankers point of view. **(06 Marks)**

2 a. Explain:
　　i) Unequal lives present worth comparison methods.
　　ii) Payback period comparison method. **(06 Marks)**

　b. An organization is to decide on purchasing machine 'A' or machine 'B', which have the capability of performing a required function. Machine 'A' has initial cost of Rs.4,00,000 with annual maintenance cost of Rs.40,000 and expected salvage value of Rs.2,00,000 at the end of 3 years service life. Machine 'B' has initial cost of Rs.8,00,000 with no maintenance cost and salvage value of Rs.5,50,000 at the end of 4 years service life. Draw CFD's for machines 'A' and 'B' and at 12% interest rate. State which alternative is preferred, when present worth comparison is made by the repeated projects method. **(14 Marks)**

3 a. Explain the concept of sinking fund and annuity contract for guaranteed income with examples. **(06 Marks)**

　b. Two types of laser beam alignment systems can be used in construction company for exact alignment. The cost of two types laser beam systems are as below:

	Type - I	Type – II
First cost (Rs.)	8000	5,200
Salvage value (Rs.)	2000	Nil
Annual operating cost (Rs.)	1000	1,050

If both laser beam systems have life of 4 years and minimum rate of return is 15% which laser beam system offers the lower equivalent annual cost. **(08 Marks)**

　c. A factory needs a machine for 3 years that can be purchased for Rs.8,76,620 and can be sold at salvage value of Rs.2,50,000 at the end of 3 years period. However similar machine can be leased for 4,00,000 per year with year end payments. If the factory expects 20% return on its investments should it buy or lease the machine. **(06 Marks)**

10ME71

4 a. List and discuss various causes of depreciation. (06 Marks)
  b. A lathe machine costs Rs.5,50,000 and has estimated life of 8 years and estimated salvage value of Rs.1,00,000. How much depreciation should be allocated each year on new lathe machine on the basis of straight line method? What is the book value of lathe machine at the end of 5th year? (04 Marks)
  c. A production machine is purchased for Rs.3,50,000 and expected salvage value after 15 years is Rs.50,000. If the annual revenues from the machine is Rs.45,000 and annual maintenance cost of machine is Rs.8000. What will be the rate on return of this machine? (10 Marks)

PART – B

5 a. Briefly explain objectives of costing. (08 Marks)
  b. Differentiate fixed cost and variable cost and give examples for each. (04 Marks)
  c. The catalogue price of washing machine is Rs.25000 and commission allowed to proprietor of the showroom is 20%. The administrative and selling expenses are 60% of factory cost. The material cost, labour cost and factory overheads are in the ratio 2:3:1. If the cost of labour on manufacture of machine is Rs.5400. Determine the company's profit or loss on each machine. (08 Marks)

6 a. Explain the following with examples:
   i) Fixed assets and current assets.
   ii) Long term liabilities and current liabilities. (08 Marks)
  b. The following are the items of profit and loss account of xyz company for the year ended march 2010. Prepare a profit and loss account statement and indicate (i) profit before taxation (ii) profit after taxation.

	Rs. in Lakhs
Operating and administration expenses	10566.6
Depreciation	1382.8
Provision for income tax	25.0
Interest paid	2595.3
Cost of sales and services	54773.9
Sales and services	71553.9
Provision for wealth tax	3.5
Other income	450.6
Excess provision for tax in pervious year	145.0
Proposed dividend	688.0

(12 Marks)

7 a. Briefly explain and mention significance of following ratio:
   i) Liquidity ratios
   ii) Leverage ratios
   iii) Profitability ratios (12 Marks)
  b. List and discuss the advantages of ratio analysis. (08 Marks)

8 a. Discuss the objectives of profit planning. (06 Marks)
  b. Explain briefly the following:
   i) Fixed budget
   ii) Flexible budget
   iii) Master budget (09 Marks)
  c. Mention the dangers of budgeting. (05 Marks)

* * * * *