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06ME56

**Fifth Semester B.E. Degree Examination, Dec.2015/Jan.2016**  
**Engineering Economics**

Time: 3 hrs.

Max. Marks:100

**Note: Answer FIVE full questions, selecting  
at least TWO questions from each part.**

**PART – A**

1. a. Explain how problem solving process leading ultimately to decision making is carried out with neat block diagram. **(06 Marks)**  
 b. Differentiate between intuition and analysis with respect to decision making. **(05 Marks)**  
 c. Calculate effective rate of interest of nominal rate of interest 14% per annum:  
     i) Quarterly  
     ii) Monthly  
     iii) Daily **(09 Marks)**
  
2. a. Briefly explain 'time value of money'. **(04 Marks)**  
 b. State and explain conditions for present worth comparison. **(06 Marks)**  
 c. A small company purchased now for Rs.23000 will lose Rs.1200 each year for the first 4 years. An additional Rs.8000 invested in company during the fifth year will result in a profit Rs.5500 each year from 5<sup>th</sup> year through 15<sup>th</sup> year at the end of 15 years. The company can be sold for Rs.33000, MARR = 12%. Determine future value. **(10 Marks)**
  
3. a. Mention the situations for applying EAW calculation. **(04 Marks)**  
 b. A company has 2 alternatives to replace a machine. The details of which are given below:

	Alternative	
	A	B
Purchase value of new machine	Rs.2,00,000	Rs.3,00,000
Life of machine	10 yrs	10 yrs
Salvage value at the end of its life	Rs.20,000	Rs.15,000
Annual operation and maintenance cost	Rs.40,000	Rs.35,000
Buyback price of existing machine	Rs.25,000	Rs.5000

- Suggest the best replacement option for the company using annual equivalent cost method of comparison by assuming 20% interest rate compounded annually. **(10 Marks)**
- c. Define ownership life and economic life with respect life of an asset. **(06 Marks)**
  
  4. a. Define depreciation. Discuss causes of depreciation. **(06 Marks)**  
 b. The initial cost of a machine is Rs.25,000 and it will have salvage value of Rs.2000 after a period of 6 years. Using reducing balance method, calculate the book value of the machine at the end of each year and plot graph of depreciation fund versus number of years. **(08 Marks)**  
 c. A proposal has an initial cost Rs.1500 and positive cash flow that return Rs.200 the first year and increased by Rs.200 each of the following years until the end of 5 years. Calculate rate of return on the proposal. **(06 Marks)**

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
2. Any revealing of identification, appeal to evaluator and/or equations written eg. 42+8 = 50, will be treated as malpractice.

**PART – B**

- 5 a. Explain with the help of block diagram various components of cost to be considered to arrive at the selling price of product during manufacturing. (10 Marks)
- b. Determine the weight and the cost of following component considering 8% material loss during process. Material density 28.5 gm/cc. cost Rs.100/kg.

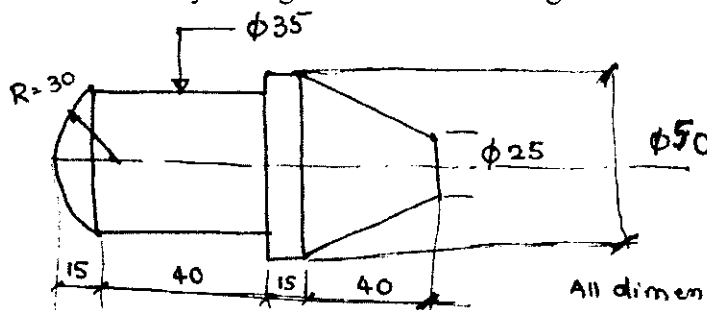


Fig.Q5(b)

(10 Marks)

- 6 a. Explain importance of balance sheet. Illustrate the form and contents of balance sheet. (10 Marks)
- b. Following are the items of the profit and loss account for XYZ Limited for the year ended on 31<sup>st</sup> March 2010. You are required to arrange them systematically and indicate:
- Profit before taxation (PBT)
  - Profit after taxation (PAT)

	Rs. (lakhs)
Operating and administrative expenses	104406.0
Depreciation	1382.8
Provision for income tax	210.0
Interest	2595.3
Cost of sales and service	54773.9
Sales & service	69552.9
Provision for wealth tax	3.5
Other income	517.6
Excess provision of tax in previous year	143.0
Proposed dividend	643.0

(10 Marks)

- 7 a. Define and explain: (i) liquidity ratio; (ii) leverage ratio; (iii) acid test ratio; (iv) profitability ratio. (12 Marks)
- b. Calculate the current asset of the company with following information:
- Stock turn ratio = 6 times  
 Stock at the end = 6000 more than the stock in the beginning  
 Sales (cr) = 200000  
 Gross profit ratio = 25%  
 Current liabilities = Rs.50,000  
 Quick ratio = 0.80

(08 Marks)

- 8 a. Discuss the elements of following types of budgets:
- Production budget
  - Material and purchase budget.
- b. Enumerate and explain objectives of profit planning. (06 Marks)
- c. Discuss advantages and disadvantages of budgeting. (06 Marks)

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