POKHARA UNIVERSITY

Level: Bachelor | Semester – Fall | Year : 2011
Programme: BE | Full Marks: 100
Course: Engineering Economics | Pass Marks: 45
Time : 3hrs.

Candidates are required to give their answers in their own words as far as practicable.

The figures in the margin indicate full marks.

Attempt all the questions.

1. a) Describe about the principle of Engineering Economics. 7

   b) What do you mean by demand and elasticity of demand? Describe three kinds of elasticity of demand. 8

2. a) What is the future equivalent of Rs 40,00,000 per year that flows continuously for 11 years if nominal interest is 12% compounded continuously. 7

   b) Find present equivalent from the cash flow given if interest rate is 11% per year using uniform gradient method. 8

End of Year	Cash Flow
1	-40000
2	-50000
3	-60000
4	-70000
5	-80000
6	-100000

3. a) We are considering the purchase of Motorcycle at a cost of Rs. 1,10,000 with an estimated salvage value of Rs. 2000 and a project useful life of 5 years. Interest is 10%, determine: 8

   i. Sum of years digits (SOYD) depreciation

   ii. Double Decline Balance with conversion to straight line depreciation.

   b) Evaluate IRR of the following project, Identify whether the project is feasible or not? Also draw investment Balance Diagram. 7

Initial investment	Rs.5,00,000
Annual Revenues	Rs.1,20,000
Annual cost	Rs. 30, 000

Useful life year	10
MARR	10%

4. a) From the following information, find that how many hours/ year would the motors have to be operated at full load for annual coss to be equal? 7

	Motor A	Motor B
Purchase cost	Rs. 125000	Rs.16000
Efficiency	74%	92%
Life	10 yrs	10 yrs
Maintenance cost	Rs. 5000/ year	Rs. 2500 /Year

Annual tax and insurance: 1.5% of investment for both motors and electricity cost Rs. 5/Kw hr. power of both motors= 100hp

b) Determine conventional and modified B/C ratio for the given project if interest rate is 11% 8

Investment	10,000
Life of project	8 Years
Annual benefits	4,600
Annual Costs	3,000
Salvage value	2,500

5. a) Briefly explain sole proprietorship, partnership, private limited and public company. 7

b) If a bond issue of Rs 100000 in 10 years bonds, in Rs. 1000 units paying 10% nominal interest in semiannual payments must be retired by use of sinking fund that earns 8% compounded semiannually find the total cost for interest and retirement of the entire bond issue over 10 years. 8

6. a) What is journal? Explain the Golden rules for Debit and Credit. 7

b) What are the elements used in Debit and Credit side of Trading account and profit and loss account. 8

7. Write a short notes on **any two:** 2×5

a) VAT

b) Cost accounting and general accounting

c) Personal tax and corporate tax