

POKHARA UNIVERSITY

Level: Bachelor
 Programme: BE
 Course: Engineering Economics
 Year : 2019
 Semester: Fall
 Full Marks: 100
 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.

- What do you mean by demand, elasticity of demand and types of elasticity of demand? 7
 - Explain manufacturing cost, non-manufacturing cost, opportunity cost and marginal cost with suitable examples. 8
- Suppose a farmer want to save money semi-annually in a financial company for the engineering education of his daughter of 2 years old. How much money does he need to save per period if she will need 20,00,000 when her age will be 18 years old? The company compounded the money semi-annually and interest rate is 12%. 8
 - An investment of Rs.1, 00,000 can be made in a project that will produce uniform annual revenue of Rs.50,000 for five years with annual cost of Rs 20000 and then have a market (salvage) value of Rs.5,000. If company has policy to accept any project that will earn 10% per year or more, on all invested capital. Calculate the discounted payback period and show whether this is a desirable investment by using the Present worth method. 7
- Compute discounted payback period and modified B/C ratio from the following data.

Initial investment	Rs. 10, 00,000
Annual revenue	Rs. 1,80,000
Annual cost	Rs. 60,000
Salvage value	Rs. 1,50,000
Useful life year	10
MARR	5%

8
 - Select the best project by using IRR method when MARR is 8%. Use incremental analysis if necessary. 7

	Project A	Project B
Initial investment	3,00,000	5,00,000
Annual revenue	1,50,000	1,75,000
Life Year	6	6
Salvage value	70,000	1,00,000

- From the given information select the best project using co-terminated assumption. Useful life = 5 years. 7

Items	X	Y	Z
Initial Investment	50000	40000	30000
Annual revenue	20000	15000	14000
Annual expenses	15000	10000	8000
Useful life	5 years	7 years	9 years
Salvage value	1000	500	0
MARR	10%	10%	10%

- A company is considering the purchase of second-hand computers at a cost of Rs.10, 500 each with an estimated salvage value of Rs.500 and a projected useful life of four years. Determine the annual depreciation and book values using double declining Balance with conversion to Straight Line depreciation method. 8

- Which motor would you select if you have to operate 12 hours a day? 7

	Motor A	Motor B
Purchase Price	Rs.3,00,000	Rs.4,00,000
Capacity	2HP	2 HP
Efficiency	75%	90%
Annual Cost	Rs. 30,000	Rs. 25,500
Electricity Cost	Rs 10 per kwh	Rs 10 per kwh
Life in years	5	7

- Explain analytically the following ratios: 8

i. Debt ratio

ii. Current ratio and

iii. Quick ratio / acid test ratio

iv. Cost of capital

- Briefly explain about ecological limit, overcoming ecological limit and sustainable development. 7
- What do you mean by income statement and balance sheet? Develop their formats and discuss the relationships and differences between them? 8

- Write short notes on: (**Any two**) 2×5

a) FIRR and EIRR

b) VAT

c) Ratio analysis for making decision.