

POKHARA UNIVERSITY

Level: Bachelor
 Programme: BE
 Course: Engineering Economics

Semester: Spring
 Year : 2016
 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.

1. a) Define engineering economics and explain its principles. 7
 b) Explain manufacturing and non-manufacturing cost, opportunity cost and opportunity cost. 8
2. a) What do you mean by time value of money? Point out the difference between Nominal and Effective Interest rate with example. 7
 b) A man aged 40 years now had borrowed Rs 5,00,000 from bank for his further studies at the age of 20 years. Interest was charged at 11% per year compounded quarterly. He wishes to pay loan in semiannual equal installments with the first installment beginning 5 years after receiving the loan. He has just cleared his loan now what amount did he pay in each installment. 8
3. a) Explain with example why the decision criteria of present worth (i.e. PW or net present value NPV) conflicts with decision criteria of IRR and how this can be overcome. 8
 b) Determine Both types of B/C ratio using present and annual worth method for the given project if interest rate is 12%, 7

Investment	6,00,000
Life	8 Years
Annual Revenue	2,00,000
Annual Cost	60,000
Salvage Value	2,00,000

4. a) Use repeatability assumptions to Recommend the best project from following information; 7

Project	A	B
Initial Investment(Rs)	40,000	50,000
Net Annual Revenue(Rs)	15,000	20,000
Salvage Value(Rs)	5,000	6,000
Life	3	5
MARR	15%	

- b) Find the IRR, MIRR, Pay Back Period, Discounted Pay Back Period of the following project. (Assume MARR=10%) 8
- | Year | 0 | 1 | 2 | 3 | 4 | 5 |
|------------|---------|------|------|------|------|------|
| Amount(Rs) | (15000) | 1000 | 2000 | 4000 | 5000 | 8000 |
5. a) What are the significance of financial statements in business? Explain the financial statement with its type. 7
 b) From the following information find the annual depreciation and the book value of each year by Straight line, Declining balance, SOYD and sinking fund method. 8
 Initial Cost=Rs. 7000 Salvage Value=Rs.2000
 Useful Life=5 Year MARR=10%
 6. a) Explain the golden rule of accounting. Define the term ratio analysis what are its types explain in brief. 7
 b) Perform the sensitivity analysis using PW method in initial investment, annual revenue and useful life and draw graph. 8
 (choose the suitable range that you prefer)
 Initial Investment=1,00,000 Annual revenue=40,000
 Annual expenses=5,000 salvage value=1,000
 Life=6 Year MARR=12%
 7. Write short notes on: (Any two) 2×5
 a) Mutually Exclusive, Contingent and Independent Project
 b) Ecological limit and ecological footprint
 c) Project funding mechanism