

POKHARA UNIVERSITY

Level: Bachelor Semester: Fall Year : 2021
 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) Why should an Engineer study Economics? Write instances where and how it can be applied at work. 7

- b) Find IRR and ERR of the following cash flow. Draw investment balance diagram based on IRR value. 8

MARR = 12%

EOY	0	1	2	3	4
Net Cash flow	-550000	-50000	+125000	+1350000	+625,000

2. a) What do you mean by marginal cost & opportunities cost. Explain about the life cycle of cost. 7

- b) ER. Ram Prasad deposited Rs 1,00,000 in his bank account on 1 January 2022. The bank pay 9% simple interest, how much will he accumulate in his account on 30 Dec 2032? 8

3. a) What do you mean by payback period? Find simple and discounted payback periods and justify investment with the given cash flow information; 8

Initial investment Rs. 3,00,000
 Annual revenue Rs. 1,50,000
 Annual cost Rs. 30,000
 Salvage value Rs.1,00,000
 Useful life year 5
 MARR 10%

- b) Yeti Airline company planning to purchase from different two company A & B, because it was based on estimation using Co-Terminated assumption & recommend the best project taking study 5 years & 8 year respectively? 7

	Investment	Revenue	Expenses	Salvage value
Plain A	350000000	13000000	1500000	3500000
Plain B	500000000	17500000	2500000	5000000

4. a) Perform sensitivity analysis of the following project over the range of $\pm 30\%$ in i) Initial investment ii) Annual revenue iii) Useful life. 8

Initial investment = 14,500
 Annual revenue = 4,000
 Salvage value = 1,000
 Useful life = 6 years
 MARR = 20%

- b) Explain in detail the Economic theory and Ecological limit, what do you understand about Ecological trot print? 7

5. a) A construction equipment has initial cost & annual saving per year are of Rs 40000 & Rs 20000 respectively with annual operation & maintenance cost of 7000. It will depreciate by MACRS method & will have no salvage value. The useful life of equipment is 5 years. Estimate before & after tax cash flow. The company pays income tax @40%. Evaluate after tax by FW method. 8

- b) Discuss the different fording mechanism in which we manage the money to the project? 7

6. a) Prepare accounting equation on the basis of following transactions. 8

- Ram starts business with Rs 40000 as capital.
- The business purchases equipment for Rs. 5000.
- Purchased goods of worth Rs. 2000 for cash.
- The business purchases goods for Rs 4000 in credit.

- b) Describe the different ratios to make decision or to identify the company strong or week? 7

7. Write short notes on: (Any two) 2×5

- Balance sheet
- Benefit-cost ratio
- Tax system of Nepal