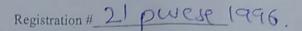
Name: Aimal Khan





# Department of Computer Systems Engineering University of Engineering & Technology Peshawar, Pakistan

Subject: Engineering Economics

Marks: 20

Exam: Mid Term Fall 23
Time Allowed: 2 Hours

#### DIRECTIONS:

1. Be clear and precise in your answers. Avoid unnecessary details.

- 2. You are expected to have brought a calculator and necessary stationery, anything else found in possession would be tantamount to cheating. No sharing of calculators is allowed.
- 3. Pages are numbers from 1-2. Make sure you have both of them.

## Question 01 [Marks 5]

[CLO-1, CLO-2]

The Engineering Economic Environment Terminologies:

- i- According to the first principle of Engineering Economics what are the two phenomena that affect the time value of money?
- ii- Should the marginal costs be higher or lower for carrying out the profitable increase of operations?
- iii- What are the five main types of engineering economic decisions?
- iv- How is the Elasticity of an item related to demand?
- v- If the inflation rate is 10% and the earning rate is 13%. What should be done according to the principle of Engineering Economics

## Question 02 [Marks 5]

[CLO-2]

NXP Semiconductors plans to increase its item's sales volume by decreasing the selling price from \$70 to \$50. The fixed costs are estimated to be \$1,145 per month and the total costs for 70% of demands are \$1,647.5. Net sales at 70% utilization are \$2,556. The demand relationship with the price is given by D = 231.0965 - 1.025p.

- i- Determine the volume for maximum profit.
- ii- Maximum profit for this venture.
- iii- Range of profitable demand.

## Question 03 [Marks 05]

[CLO-1]

Suppose the management team of Acer Inc. is under pressure to return a loan of \$3,000,000 in one year and purchase a more modern tech-oriented machine. One proposed solution is to sell the old chips and hardware to a local manufacturer for \$2,500,000 instead of using them for old machines. If the inflation rate is 6% and the interest rate on loans is 8% per year, what decision will you make about returning the loan immediately with the amount from wood waste and selling the wood waste later after a one-year span? Devise an analysis process for this problem and justify your pick with Engineering Economics Principles.

Name:	Registration #	
estimate the constructifor employees would respected around \$400 is expected to be \$214 would reach up to \$4\$\$4,500,000 in New Zooffice. There are serv \$82,000 per eighty s	Instruct a new head office in New Zealand. According to a ration, setup, and equipment will cost up to \$10,035,000. The pack reach up to \$25,500,000 per month. Monthly electricity expense 0,000 depending upon the power usage. The increase in the reverse 4,500,000. If the head office was constructed in Canada the reverse 220,000,000 but the company had previously purchased land we realand for some other purpose, so it is utilizing it now for the prices offered at the head office that are estimated to have a conservices and the price per batch (100 services) is \$90,200. It is and evaluate whether this is a profitable deal.	es are enue enue vorth head
	Good Luck	
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