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**Presidency University**

**Bengaluru**

 **SCHOOL OF MANAGEMENT**

**SUMMER TERM END TERM EXAMINATION AUGUST 2024**

**Odd Semester**: 2021 - 22

**Course Code**: MGT 112

**Course Name**: ENGINEERING ECONOMICS

**Program & Sem** B.TEH

**Date**: 19-08-2024

**Time**: 9.30am – 12.30pm

**Max Marks**: 100

**Weightage**: 50 %

 **Instructions:**

1. *Read all questions carefully and answer accordingly.*
2. *Do not write any matter on the question paper other than roll number.*

**Part A [Memory Recall Questions]**

**Answer all the Questions. Each question carries FOUR marks. (5Qx 4M= 20M)**

1. Define cross Elasticity of demand and its types (C.O.No.2)[Knowledge]

2. Draw the four sector circular flow of income diagram (C.O.No.1)[Knowledge]

3. Define Payback period, Depreciation, Future value of money (C.O.No.4)[Knowledge]

4. List out the strategic engineering economic decisions. (C.O.No.1)[Knowledge]

5. Mention different types of costs involved in production with diagrams (C.O.No.4)[Knowledge]

**Part B [Thought Provoking Questions]**

**Answer all the Questions. Each question carries EIGHT marks. (5Qx8M=40M)**

6. Explain the principles of engineering economics (C.O.No.1)[Comprehension]

7. Demand is the quantity of a product that consumers are willing and able to purchase at various

 Prices during a given period of time. Based on the price and quantity demanded, give reasons

 and show graphically what will happen in each case?

1. Consider that Car and diesel are compliments. What will happen to the demand of

Diesel, if the price of car increases.

 ii) Assume that Cello is a normal good. What will happen to the demand of Cello, if the

income of people who buy Cello decreases? (C.O.No.2)[Comprehension]

8. The intersection of the demand and supply functions is called point of market equilibrium. if

 the demand and supply are given by: Qd=1000-20P and Qs=400P-200. Calculate Equilibrium

 Quantity and Equilibrium Price. (C.O.No.3)[Comprehension]

9. Cost analysis is an important technique in production of goods decisions. Fill up the blanks in

 the following table. (C.O.No.4)[Comprehension]

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| UNITS OF OUTPUT | Total Fixed Cost (TFC) | Total Variable Cost (TVC) | Total Cost (TC) | Average Fixed Cost (AFC) | Average Variable Cost (AVC) | Average Cost (AC) | Marginal Cost (MC) |
| 20 | 1,500 |  | 1700 |  | 10 | 85 | 000 |
| 50 | 1,500 | 500 |  | 30 |  |  | 300 |
| 100 | 1,500 | 900 |  |  |  |  | 400 |
| 200 | 1,500 | 1,500 | 3,000 |  |  |  |  |

10. if you deposit Rs.3000 in an account that pays 10% interest, compounded annually, how much

 will You have at the end of 1year? 2 years? 3 years?

**Part C [Problem Solving Questions]**

**Answer all the Questions. Each question carries TEN marks. (4Qx10M=40M)**

11. Impala Engineering are producing a small component and they provide the following data:

 Selling Price per unit Rs.40

 Variable Cost per unit Rs.24

 Fixed Cost Rs.16,000

 You are required to calculate Break Even Point (BEP) in physical units, Variable Cost at BEP

 and Profit made by the company at 5000 units (C.O.No.3)[Application]

12.(a) if the price of pens decreases from Rs.2 to Rs.1 and the quantity demanded for pen

 increases from 40 to 50 units, Calculate the price elasticity of demand and comment on the

 nature of Elasticity.

 (b) If the income increases from Rs.1000 to Rs.2000 and the quantity demand for the product

 Increases by 20 to 30 units, Calculate the income elasticity and comment on the nature of

 Good. (C.O.No.4)[Application]

13. Zenith Engineering consultants are planning to invest Rs.2,00,000 in each project. Calculate

 Pay back period and suggest them which project is preferable (C.O.No.4)[Application]

|  |  |  |  |
| --- | --- | --- | --- |
| YEAR | PROJECT ‘A’ CASH FLOWS (Rs.) | PROJECT ‘B’ CASH FLOWS (Rs.) | PROJECT ‘C’ CASH FLOWS (Rs.) |
| 1 | 90,000 | 1,30,000 | 1,66,667 |
| 2 | 90,000 | 1,30,000 | 1,66,667 |
| 3 | 90,000 | 1,30,000 | 76,667 |
| 4 | 90,000 | 80,000 | 80,000 |
| 5 | 2,30,000 | 60,000 | 90,000 |

14. Solve for the missing value and complete the following: (C.O.No.4)[Application]

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| CASE | FUTURE VALUE | INTEREST RATE | NUMBER OF YEARS | PRESENT VALUE |
| A | Rs. 8,000 | 5% | 5 |  |
| B |  | 10% | 20 | Rs.68,650 |