

Gandhi Institute of Engineering and Technology University, Odisha, Gunupur (GIET University)



B. Tech (Sixth Semester - Regular) Examinations, April 2026 23BMGMG36001 - Engineering Economics and Costing (Common to All except CSE)

Time: 3 hrs

Maximum: 60 Marks

Answer ALL questions
(The figures in the right hand margin indicate marks)

PART – A**(2 x 5 = 10 Marks)**Q.1. Answer **ALL** questions

	CO #	Blooms Level
a. The price of a commodity decreases from ₹20 to ₹16, and as a result, the quantity demanded increases from 100 units to 140 units. Find the price elasticity of demand.	CO1	K1
b. Define Breakeven point.	CO2	K1
c. State the condition for profit maximization under perfect competition.	CO3	K1
d. What is Depreciation?	CO4	K1
e. What is NDP ?	CO5	K1

PART – B**(10 x 5 = 50 Marks)**Answer **ALL** the questions

	Marks	CO #	Blooms Level
2. a. What is law of demand. Explain the price and income elasticity of demand.	5	CO1	K2
b. Discuss law of returns to scale.	5	CO1	K2
(OR)			
c. Explain the degrees of price elasticity of demand with graphs.	7	CO1	K2
d. Explain the exception to the law of demand with example.	3	CO1	K2
3.a. A firm operates under perfect competition with the following cost function: $TC=100+10Q+Q^2$. The market price is ₹50. Find: (i) Equilibrium output (ii) Profit of the firm	5	CO2	K2
b. The total cost (TC) of a firm at different levels of output is given below:			
Output (Q) Total Cost (TC ₹)			
0 100			
1 120			
2 150			
3 190	5	CO2	K2
4 240			
Find:			
(i) Fixed Cost (FC)			
(ii) Variable Cost (VC) at each level			
(iii) Marginal Cost (MC)			
(OR)			
c. A firm has the following data: Fixed Cost = ₹40,000 Selling Price per unit = ₹50	5	CO2	K2

Variable Cost per unit = ₹30

Find: (i) Break-Even Point (in units and sales value)

(ii) M/S (MOS) if 2500 units are actually sold

- d. What is margin of safety and show it graphically. 5 CO2 K2
- 4.a. Select the best project with the help of Future Worth Method by taking an interest rate of 5% compounded annually.

Year	Project A (₹)	Project B (₹)
P	100,000	180,000
R	40,000	75,000
C	500	700
Sv	30,000	45,000
Life	5yrs	5 yrs

7 CO3 K3

- b. Explain cash flows with diagrams. 3 CO3 K2

(OR)

- c. A company has to choose between two machines: Under an interest rate of 10% compounded annually suggest the best machine using EAW method.

Particulars	A	B
Initial Cost (₹)	40,000	60,000
Annual revenue (₹)	9000	7000
Salvage Value (₹)	5000	10000
Life (years)	4	6

5 CO3 K3

- d. A series of cash flows increases by ₹1,000 every year. The first year payment is ₹1,000, second year ₹2,000, third year ₹3,000, and so on up to 5 years. The interest rate is 10% compounded annually. Find the PW of this gradient series. 5 CO3 K3
- 5.a. What is depreciation. Discuss straight line depreciation method. 5 CO4 K3
- b. A machine costs ₹1,00,000. It is depreciated at a rate of 20% per year using the declining balance method. 5 CO4 K3

(OR)

- c. A government is evaluating a bridge construction project with the following data:

Initial Cost = ₹5,00,000

Annual Benefits = ₹1,50,000 for 5 years

Discount Rate = 10%

Find: (i) Present Value of Benefits

(ii) Benefit-Cost Ratio (BCR)

5 CO4 K2

- d. What is a public project? Discuss cost benefit analysis (CBA). 5 CO4 K3
- 6.a. Mention functions of commercial bank. 5 CO5 K2
- b. How EEC is helpful in decision making? 5 CO5 K2

(OR)

- c. Explain credit creation. 5 CO5 K2
- d. Explain inflation and its causes. 5 CO5 K2

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