GURU NANAK INSTITUTE OF TECHNOLOGY

An Autonomous Institute under MAKAUT

2020-2021

ECONOMICS FOR ENGINEERS(Backlog)

HU503

TIME ALLOTTED: 3 Hours **FULL MARKS: 70**

The figures in the margin indicate full marks.
Candidates are required to give their answers in their own words as far as practicable.

GROUP – A
(Multiple Choice Type Questions)

Answer any ***ten*** from the following, choosing the correct alternative of each question: **10×1=10**

		Marks	CO No
1.i)	Price Elasticity of demand for a Giffen good is a) Zero b) 1 c) Negative d) >1	1	CO1
ii)	A Demand Curve a) Slopes downward b) Rises upward c) Is parallel to X axis d) Cannot be determined	1	CO1
iii)	Inflation makes a) Future rupees less valuable than present rupees b) Future rupees more valuable than present rupees c) Future rupees equal to present rupees d) None of these	1	CO2
iv)	At break-even point a) Revenue > cost b) Revenue < cost c) Revenue = cost d) No relation between revenue & cost	1	CO4
v)	Contribution is a) Sales – Variable Cost b) Sales – Fixed Cost c) Sales – Total Cost d) None of these	1	CO3
vi)	Which of these methods DOES NOT consider Time Value of Money? a) NPV b) IRR c) PI d) ARR	1	CO1
vii)	Which one of the following is helpful for measuring inflation? a) Learning Curve b) Segmentation Model c) Consumer Price Index d) None of these	1	CO5

viii)	CVP Relationship is shown by a) Break-even Chart b) Profit-Volume Graph c) CVP Chart d) Profit Path Chart	1	CO4
ix)	Which of these is NOT a part of Balance Sheet? a) Capital b) Drawings c) Outstanding salary d) Gross Profit	1	CO5
xi)	Margin of Safety is a) Sales – Total Cost b) Sales – Break-Even Sales c) Sales – Contribution d) Sales – Fixed Cost	1	CO3
xii)	Angle of Incidence is created by a) The FC & VC Curves b) The TR & TC Curves c) The TR & FC Curves d) The TC Curve and Output axis	1	CO4

GROUP – B
(Short Answer Type Questions)

(Answer any *three* of the following) **3x5=15**

2.	A company earns a profit of Rs 40,000 in a year. The variable cost & selling price of a product are Rs 12 & 10 per unit respectively. Calculate the Margin of Safety.	5	CO4
3.	A project costs Rs 20,00,000 and yields an annual profit of Rs 3,00,000 after depreciation @ 12.5% but before tax @ 50%. Calculate the Payback period.	5	CO1,2
4.	Define Inflation. Write down two major causes of inflation.	5	CO5
5.	Calculate the NPV of a project requiring an initial investment of Rs 40,00,000 and which provides a net cash flow of Rs 12,000 each year for 6 yrs. Assume rate of interest 8% p.a. The present value of an annuity of Re 1 for 6 years @ 8% p.a is 4.623.	5	CO1,2
6.	The demand function of a commodity is given by q= 48p. Prove that the price elasticity of demand is 1.	5	CO1

GROUP – C
(Long Answer Type Questions)

(Answer any *three* of the following) **3 x 15 = 45**

7.a)	State and explain the Law of Demand.	4	CO1
b)	What are the determinants of demand for a commodity?	5	CO2
c)	Mention the major exceptions to the Law of Demand.	6	CO2

8. a) A company makes plastic buckets. It has furnished the following information: 10 CO1,4

Variable Cost per bucket : Rs 20
Fixed Cost : Rs 50,000 for the year
Production : 2000 buckets per year
Selling price : Rs 70 per bucket

(i) Calculate the break-even point
(ii) Find the no of buckets to be sold to get a profit of Rs 30,000
(iii) If the company can manufacture 600 buckets more per year over (b), with an additional fixed cost of Rs 2000, what would be the selling price to maintain the profit per bucket as above?

8. b) Explain the Break Even Chart 5 CO3

9. The following details are on the cash flows of two projects A & B: 15 CO2,3

Year	Project A Cash Flows(Rs)	Project B Cash Flows (Rs)
0	4,00,000	5,00,000
1	2,00,000	1,00,000
2	1,75,000	2,00,000
3	3,25,000	3,00,000
4	2,00,000	4,00,000
5	1,50,000	2,00,000

Calculate Payback Period, NPVand PI for two projects and suggest which one should be accepted and why. Given, discounting rate is 10%.

10.a) ABC Ltd needs your help in selection of profitable projects out of the details given below: 10 CO4

Projects	**Cost (Rs)**	**Annual Cash Inflow(Rs)**	**Life of the Project**
A	3,00,000	1,10,000	5
B	2,50,000	56,000	7
C	5,00,000	1,00,000	10
D	4,00,000	90,000	12
E	1,50,000	30,000	8

The company's required rate of return is 14%. Advise the management about the profitable projects within a budget of Rs 8,00,000.

Given :

No of Years	**Annuity factor @14%**
5	3.433
7	4.288
8	4.639
10	5.217
12	5.660

10.b) Write the major points of distinction between NPV & IRR 5 CO2

11.	Write short notes on ***any three*** of the following:	3x5=15	
11.a)	Discounted cash flow method	5	CO2
11.b)	Methods of measuring National Income	5	CO3
11.c)	Inflation	5	CO4
11.d)	Balance Sheet	5	CO2
11.e)	Elasticity of demand	5	CO1