

GURU NANAK INSTITUTE OF TECHNOLOGY
An Autonomous Institute under MAKAUT
2022
ECONOMICS FOR ENGINEERS
HU402

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) Economic problems arise because a) Resources are limited b) Human wants are unlimited c) Both (a) & (b) d) None of these	1	CO1
	(ii) The Demand Curve for normal goods a) Rises upwards b) Slopes downwards c) Is parallel to X axis d) Is parallel to Y axis	1	CO1
	(iii) Tea & sugar together could be an example of a) Substitute goods b) Complementary goods c) Supplementary goods d) None of these	1	CO1
	(iv) A change in demand occurs due to a) Increase in Price b) Decrease in Price c) Change in non-price determinants of demand d) None of these	1	CO2
	(v) CPI stands for a) Constant Price Index b) Continuous Price Index c) Consumer Price Index d) Consumer Parity Index	1	CO4
	(vi) When the demand curve is horizontal, price elasticity of demand is a) Zero b) Infinity c) 1 d) None of these	1	CO2

(vii)	Which of the following is a cause of inflation? a) Rising labour costs b) Declining labour costs c) Reduction in price of consumer goods d) Decrease in the price of raw materials	1	CO4
(viii)	Which of the following is an inferior good? a) Giffen good b) Perishable good c) Luxury good d) Speculative good	1	CO1
(ix)	Which of the following methods DO NOT consider the Time Value of Money principle? a) NPV b) IRR c) Payback Period d) PI	1	CO 4
(x)	The basic unit of production in an economy is known as a) Industry b) Firm c) Consumer d) Market	1	CO2
(xi)	A large Margin of Safety means a) Over production b) Under production c) Higher fixed cost d) A favourable condition for the business	1	CO3
(xii)	Which of the following is a Semi-Variable Cost? a) Raw Materials Cost b) Labour Cost c) Electricity d) Rent of the factory	1	CO3

GROUP – B

(Short Answer Type Questions)

Answer any *three* from the following: $3 \times 5 = 15$

		Marks	CO No
2.	The demand function for a good is $Q = 24 - 3P$. Find the theoretical maximum quantity demanded and the theoretical maximum price.	5	CO2, CO3
3.	State the major determinants of demand for a commodity.	5	CO1, CO2
4.	The following information is given for XYZ Co: Fixed Cost : Rs 4500 Variable Cost : Rs 7500 Sales : Rs 15,000 Units produced & sold : 5000 units Calculate : (i) Break-Even Point (in units) (ii) Sales units required to earn a profit of Rs 6000	5	CO3

5.

5

CO1, CO2

	Product X	Product Y
Contribution per unit	Rs 100	Rs 90
Time taken per unit	20 hours	15 hours

The total time available to manufacture the two products X & Y is 8000 hours. Maximum production possible for each product is 400 units. Find the most profitable product mix with the available time.

6. (a)

What is IRR?

2

CO3

(b)

From the following information find the Payback Period of a project which requires an initial investment of Rs 30,000:

3

CO3

Year	Annual Cashflow (After tax & after depreciation @10%) (Rs)
1	8,000
2	10,000
3	7,000
4	15,000
5	9,000

GROUP – C**(Long Answer Type Questions)**

Answer any *three* from the following: $3 \times 15 = 45$

7. (a)

From the following information calculate the Profit:

Marks

5

CO No.

CO4

Sales = Rs 80,000

Variable Cost = Rs 60,000

Break-even Sales = Rs 60,000

(b)

What is a Commodity Basket? Explain.

5

CO4

(c)

Calculate the CPI from the following data for the year 2010:

5

CO3

Goods	Weight	Price in 2010 (Rs)	Price in 2000 (Rs)
Food	50%	50	45
Clothes	20%	30	26
Transport	20%	40	35
Phone	10%	80	70

8. (a)

What do you understand by CVP Analysis? Explain with an appropriate diagram.

10

CO2

(b)

Explain the concepts of change in demand & change in quantity demanded.

5

CO1

9. (a)

From the following information given by ABC Ltd, prepare a Cost Sheet showing the **Total Profit and Profit Per Unit** for the year ended 31st March 2020:

10

CO3

Raw Materials Used : Rs 50,000

Direct Wages : Rs 30,000

Machine hours worked: 10,500 hours

Machine hour rate : Rs 2 per hour

Office overheads: Rs 20,000

Selling overheads: Re 1.00 per unit

Output: 20,000 units

Sold: 18,000 units

Profit : 20% on Sales

- (b) Mention the major exceptions to the Law of Demand. 5 CO1
10. (a) From the following information calculate: 12 CO2
- (i) NPV
- (ii) IRR
- (iii) PI

Yr	Net Cash Flow(Rs)
1	5000
2	8000
3	10,000
4	4000

Initial Investment is Rs 20,000.

Given:

Year	D.F@13%
1	0.885
2	0.783
3	0.693
4	0.613

- (b) What do you mean by Substitute Goods and Complementary Goods? 3 CO1
11. Write short notes on *any three* : 3x5=15
- (a) Inflation and its causes CO4
- (b) GDP & GNP CO3
- (c) Business cycle CO1
- (d) Market Equilibrium CO4
- (e) Consumer's basket CO4