

# MGT 203: Business Economics – I

BBS 1<sup>st</sup> Year  
Model Question

Full Marks: 100  
PassMarks: 35

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

## Attempt All Questions

### Group 'A'

#### Brief Questions Answer

[2 x 10 = 20]

1. Define Micro Economics.
2. What is the difference between movement along a demand curve and shift in demand curve?
3. As a result of 5% fall in price of food its demand rises by 12%. Find out price elasticity of demand say whether demand is elastic or inelastic.
4. Why indifference curve is convex to the origin?
5. Why AR and MR curve is horizontal straight line in perfect competition market?
6. Draw the diagram of iso-cost line.
7. What is opportunity cost?
8. If  $Q_d = 100 - 20p$  and  $Q_s = 10 + 40p$ . Find the equilibrium level of price and output.
9. Define transfer earning with an example.
10. What is oligopoly market?

### Group 'B'

#### Descriptive Answer Questions (attempt any five)

[5 x 10 = 50]

11. What is price effect? Describe how consumer equilibrium changes due to the changes in the price of a commodity. (3+7)
12. Explain the uses of microeconomics in making business decision. (10)
13. Derive short-run supply curve of a firm and industry under perfect competition. (10)
14. Complete the following table and answer the given question. (5+5)

Output	TFC	TVC	TC	AFC	AVC	AC	MC
0	200						
1		50					
2		90					
3		120					
4		140					
5		175					
6		230					
7		310					
8		400					

From the given table explain the relationship between Average cost and Marginal cost.

15. Profit is reward for innovation. Explain

(10)

16. You are given the following data of total product at different variable factors:

Units of Variable factors	0	1	2	3	4	5	6	7	8
Total product	0	20	50	90	120	140	150	155	150

- Calculate marginal product and average product from the above information.
- Draw a diagram and show the relationship between total product, average product and marginal product.

### Group 'C'

**Analytical Answer Questions (attempt any two)**

**[2 x 15 = 30]**

- What is monopoly? Explain how price and output are determined under monopoly in the long run? (3+ 12)
- What is iso-quant? Explain the various properties of iso-quant. (3+ 12)
- What is price elasticity of demand? Explain and illustrate the measurement of price elasticity of demand with the help of point method. (3+ 12)

## Chapter 1 Introduction

1. What is microeconomics?[2][2076][2074][2071][2072]
2. Explain importance of microeconomics. [10][2072]
3. Explain use of microeconomics in business decision making. [8][2076][2074][10][2071][2073][2075]
4. What is managerial economics? [2][2075]
5. Explain scope of managerial economics. [8][2075]
6. Explain the types of equilibrium analysis in microeconomics.
7. Explain the ten principles of economics.[2]
8. Explain the concept of production possibility curve.
9. What are the causes of shift in production possibility curve?
10. What is micro dynamic analysis?[2]
11. Define comparative micro static analysis.[2]
12. Define micro static equilibrium analysis.[2]
13. Define incremental analysis.[2]
14. What is marginal analysis?[2]
15. Define production possibility curve. [2]
16. State the scope of business economics.[2][2073]
17. Write any five characteristics of business economics. [2][2074][2076]

## Chapter 2 Theory of Demand and Supply and Equilibrium Price

1. What is movement along a supply curve? [2][2076]
2. Point out any three causes which shift in supply curve [2][2073]
3. List out any five determinants of demand. [2][2072]
4. List out any five determinants of supply. Describe determinants of supply [2] [2071] [10] [2075]
5. What is price ceiling?[2]
6. What is price floor (minimum price)? [2]
7. Define market efficiency.[2][4]
8. How do you measure market efficiency by the help of consumer surplus? Explain.[10]
9. What is consumer surplus?[2]
10. What is producer's surplus?[2]
11. Describe the types of demand function.[10][2076]
12. Explain the concept of linear and non linear demand function? Explain various determinants of demand.[10][2074][2073]
13. Explain the effect of government policy in the market equilibrium.[10]
14. Let, demand function  $Q_d = 100 - 5P_x$ , supply function =  $20 + 5P$ . Determine equilibrium price and quantity. [2][2075] Ans = Rs 8 and 60 units.
15. Suppose demand function ( $Q_d$ ) =  $500 - 10P$  and supply function ( $Q_s$ ) =  $50 + 20P$ . Find the equilibrium price and quantity. [2][2074] Ans. Rs15 and 350 units
16. Let, autonomous demand = 200, the slope of the demand curve = -5 Derive linear demand function. [2][2072] Ans  $D_x = 200 + 5P_x$
17. The following schedule shows the amount of sandwich bought by a household of Nepal at different prices.

Period	Price of Sandwich(Rs)	Demand of sandwich
2069	50	80
2070	75	100

Does the behavior of the household contradict the law of demand? Give reason for your answer. [2][2071]

18. Derive the linear demand function when  $a = 10$  and  $b = 2$  where  $a$  is the autonomous demand and  $b$  is the slope of the demand curve. [2] Ans  $D_x = 10 - 2P_x$ .
19. Derive the linear supply function when  $a = 10$  and  $b = 2$ , where  $a$  is the autonomous demand and  $b$  is the slope of the supply curve. [2] Ans  $S_x = 10 + 2P_x$
20. If  $Q_d = 100 - 20P$  and  $Q_s = 10 + 40p$ . Find the equilibrium level of price and output. Ans Rs 1.5 and 70 units.
21. Find equilibrium price and quantity if the demand and supply function are:  $Q_d = 3500 - 15P$ ,  $Q_s = -500 + 25P$

22. Consider the following demand and supply functions: [5+5]

$$Q_d = 150 - 5P_x; Q_s = 10 P_x$$

Answer the following questions:

Graph the demand and supply equations and show the equilibrium price and quantity.

If demand increase to  $Q_d' = 150 - 10P_x$  and supply increase to  $Q_s' = 50 + 10P_x$ , find out the new equilibrium price and quantity. Also explain cause of change in equilibrium price and quantity. Ans Rs 10 and 100 units. Rs 5 and 100 UNITS.

23. Let individual demand function  $Q_{dx} = 12 - 2P_x$  and market supply function  $Q_{sx} = 20P_x$ . If there are 10 individuals customers in the market for commodity  $x$ , find:

Market demand function

Market demand schedule and market supply schedule

Derive market demand curve and market supply curve

Obtain equilibrium price and quantity mathematically.

Ans  $Q_{dx} = 120 - 20 P_x$ , Rs 3 and 60 units.

The market supply and demand functions are as:

$$Q_d = 1200 - 2P, Q_s = 4P$$

On the basis of this information, answer the following questions:

Determine the equilibrium price and quantity.

What is the effect of tax Rs 50 per unit on production? Ans Rs200 and 800 units Rs23.3 and 733.4 Units.

24. The market for pizza has the following demand and supply schedule.

Price (in Rs)	Quantity Demanded	Quantity Supplied
40	135	26
50	104	53
60	81	81
70	68	98
80	53	110
90	39	121

Graph the demand and supply curves. What is the equilibrium price and quantity in this market?

If the actual price in this market were above the equilibrium price, what would derive the market toward the equilibrium?

If the actual price in this market were below the equilibrium price, what would derive the market towards the equilibrium?

Ans Price Rs 60 and equilibrium quantity 81 units

25. From the specific supply function  $Q_{sx} = 20 P_x$  derive,

Supply schedule

Supply curve

What thing have been kept constant in the given supply function?

What is the minimum price that this producer must be offered to induce start supply?

What is the nature of supply curve?

26. Assume that  $a=100$  and  $b=5$ . Find out demand function and quantity demanded at price Rs 4 and Rs 16. Also, derive demand curve. What type of demand function does it represent? [10]

**Chapter 3 Elasticity of Demand and Supply**

1. What are the uses of price elasticity of demand in business decision making? [2][2076]
2. State the degrees of price elasticity of supply. [2][2075]
3. What is the difference between price elasticity of demand and cross elasticity of demand? [2][2073]
4. What do you mean by cross elasticity of demand? [2][2071]
5. What is advertisement elasticity of demand? [2]
6. What do you mean by price elasticity of demand? How is it measured with the help of point method? [10][2072][2072]
7. Calculate price elasticity of supply by arc method when price increases from Rs 10 to 20 and quantity supplied increases from 40 units to 80 units. [2][2074] Ans 1
8. As a result of 2% fall in price of food its demand rises by 8% Find out price elasticity of demand. [2] Ans 4
9. With the help of the following information given below, find out the cross elasticity of demand.[2][2072] Ans  $E_{xy} = 0.444$

Price of tea (Rs)	Demand for tea	Demand for Coffee
20	2000	1800
25	1500	2000

10. As a result of 5% fall in price of food, its demand rises by 12% Find out price elasticity of demand and say whether demand is elastic or inelastic. [2] Ans 2.4
11. As a result of 20 percentage increase in income, demand for good X- increase by 40%. Find out income elasticity of demand and nature of commodity. [2] Ans 2
12. Find out price elasticity of demands at price Rs 10 when demand function is  $Q = 100 - 5P$  [2] Ans - 1
13. Calculate price elasticity of demand using arc method, if  $Q_1 = 400$ ,  $Q_2 = 500$ ,  $P_1 = 20$ ,  $P_2 = 18$ . [2] Ans -2.1
14. Calculate cross elasticity of demand when 10% rise in price of good X causes decrease in demand for good Y by 5%. Also say these goods are substitutes or complements. [2] Ans -0.5
15. Calculate the price elasticity of supply at price Rs 25 with the given supply function  $Q_x = 20 + 2P_x$ . Ans 0.71
16. Calculate elasticity of supply when supply of potato increases by 20% with increase in price by 30%. Also say what type of elasticity of supply is it. [2][0.66]
17. Consider the following schedule

Points	A	B	C	D	E
$P_x$	2	4	6	8	10
$Q_{dx}$	100	80	60	40	20
$Q_{sx}$	20	40	60	80	100

Compute price elasticity of demand at equilibrium price.

Compute price elasticity supply at movement from B and D and D to B by percentage method.

Compute price elasticity of supply at midway between B and D and D and B by arc method. [2+4+4][2076] Ans  $E_p = -1$  b  $E_s = 1$  ,  $E_s = 1$

18. Consider the following demand schedule.

Points	A	B	C	D	E
Px	8	6	4	2	0
Qdx	0	10	20	30	40

Compute price elasticity of demand at movement from B to D and D to B by proportion method.

Compute price elasticity of demand at midway between B and D and D and B by arc method.

Compute price elasticity of demand by total outlay method at movement from B to D.

Ans 3 and 0.333 , 1 and 1, 1

19. Suppose individual demand schedule for Suraj, Sunny and Sushila are given as:

Price	Suraj's Demand	Sunny's Demand	Sushila's Demand
10	160	80	40
20	80	40	20
30	40	20	10
40	20	10	0
50	0	0	0

Find:

Market demand schedule

Market demand curve

Elasticity of demand when price falls from Rs 30 to 20.

Elasticity of demand when price rises from Rs 20 to 30.

Ans 280, 140, 70, 30, 0 -3, -1

20. Suppose a demand schedule is given as follows:

Price(Rs)	100	80	60	40	20	0
Quantity Demanded	100	200	300	400	500	600

- Work out the elasticity for the fall in price from Rs 80 to Rs 60.
  - Calculate the elasticity for the increase in the price from Rs 60 to Rs 80
  - What is elasticity coefficient in the part (a) different from that in (b). Ans -2, -1
21. The demand for a commodity is given by  $Q = 20000 - 300P$ . The commodity is initially priced at Rs 20 per unit. Compute the price elasticity of demand. If the objective is to increase total revenue, should the price be increased or decreased? Why? Ans -0.42
22. Suppose that your demand schedule for mango is as follows:

Price/ Kg (in Rs)	Quantity Demanded (in kg) (Income = Rs 10,000)	Quantity Demanded (in kg) (Income = Rs 15,000)
8	80	100
10	64	90
12	48	60
14	32	40
16	16	30

- Calculate your price elasticity of demand as the price of mango increases from Rs 8 to Rs 14 if your income is Rs 10,000.
- Calculate your income elasticity of demand as your income increases from Rs 10,000 to Rs 15,000 if price is Rs 12 per kg. Ans a = -0.8, b = 0.5

23. Consider the following hypothetical table.

Combination	Price	Quantity Demanded
A	10	20

B	14	15
C	18	8
D	20	2

On the basis of information given above, calculate

- Price elasticity of demand from A to B
- Price elasticity of demand from D to C
- Average elasticity of demand from B to D and interpret your results. Ans a, -0.512, b, -30, c, -4.33

24. Suppose demand schedule is given as follows:

25.

Price (Rs)	100	80	60	40	20	0
Quantity	100	200	300	400	500	600

Estimate price elasticity of demand for the rise in the price from Rs 60 to Rs 80 by using arc or mid point method. [10] Ans -1.4

26. Find the cross elasticity of demand between tea (x) and coffee(y) and between Tea (x) and sugar (z) from the data given below:

27.

Commodity	Before		After	
	Price Rs/ Unit	Quantity demanded (Units)	Price Rs/ Unit	Quantity demanded (Units)
Coffee(Y)	30	300	20	400
Tea(X)	10	150	10	100
Sugar (Z)	15	100	20	90
Tea(X)	10	150	10	120

Ans 1, -0.6

28. A publishing company plans to publish a book. From the sales data of other publishers of similar books, it works out the demand function for the book as  $Q_d = 500 - 5P$ , Find

- Point-elasticity of demand at price Rs 20 and
- Arc Elasticity for a fall in price from Rs 25 to Rs 20.

Ans a. -0.25, b. 0.29

29. Compute price elasticity of supply by percentage and arc method from the following supply schedule.

Price (Rs)	10	20
Supply (Units)	40	100

Ans 1.5 and 1.28

#### Chapter 4 Theory of Consumer Behavior

- Write any four assumptions of indifference curve[2][2076]
- Why IC slopes downwards?[2][2075]
- Write any three characteristics of IC. [2][2074]
- Why is IC convex to the origin?[2][2073][2072]
- Let a consumer selects two goods x and y for consumption having prices with Rs 200 and Rs100 respectively and fixed income with Rs. 1,000. Draw Budget line.[2][2073]
- Derive PCC for substitute goods. [2][2072]
- What is ICC? [2][2072]
- Why does a rational consumer choose higher IC?[2][2071]

9. Express mathematically conditions for consumer's equilibrium for one commodity case and two commodity cases. [2]
10. Explain income effect with the help of diagram. [10][2072]
11. Why the Hicksian utility analysis is superior to the Marshallian utility analysis? [10][2071]
12. Discuss the income effect for normal and inferior goods. [15][2076]
13. Decompose price effect into income effect and substitution effect. [15][2075]
14. What is consumer's equilibrium? Explain with the help of IC technique how a consumer attains equilibrium? [15][2072]
15. Define IC. Explain how the consumer is in equilibrium under it? [15][2072]
16. Derive budget equation if a consumer has total income of Rs 3000 and price X and Y goods are Rs 50 and Rs 70 respectively. [2][2072] Ans  $50Q_x + 70Q_y = 3000$
17. Fill up the following table:
- 18.

Combinations	Good -X	Good -Y	MRS xy
A	1	15	-
B	2	10	-
C	3	6	-
D	4	3	-
E	5	1	-

Ans  $MRS_{xy} = -, -5, -4, -3, -2$

19. Suppose price of good - x and good -y are respectively Rs 20 and Rs 10. The consumer spends all of his money income Rs 2000 on good x and y. Derive the budget constraints. [2][Ans  $2000 = 20Q_x + 10Q_y$ ]
20. Is it possible to attain equilibrium by a consumer at  $MRS = \frac{4}{1}$  and price ratio  $= \frac{2}{1}$  Justify with proper reasons. Ans since these ratios are not equal, it is not possible to attain equilibrium by the consumer.
21. Fill up the following table:

Combinations	Good -X	Good -Y	MRS <sub>xy</sub>
A	1	16	-
B	2	-	4
C	3	-	3
D	4	-	2
E	5	-	1

Ans good -Y = 12, 9, 7, 6

22. Suppose price of commodity X is Ra 100 and price of commodity Y is Rs 50 and a consumer has Rs 2000 to spend per month on goods x and y.
  - a. Sketch the consumer's budget constraints.
  - b. Assume that he splits his income equally between x and y. Show where the consumer ends up on the budget constraints. [ $10P_x + 20P_y = 1000$ ]
  - c. Suppose that income rises from Rs 2000 to Rs 4000. Sketch the new budget constraints.
  - d. Assume that he again splits his budget equally between x and y. Show where the consumer ends up on the new budget constraints. [ $20P_x + 40P_y = 4000$ ]
23. Complete the following schedule and answer the given questions.

Combinations	Good -X	Good -Y	MRS <sub>xy</sub>
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A	1	15	
B	2		
C	3		
D	4		
E	5		

From the given table explain the marginal utility rate of substitution with the help of diagram.[4+2+4][2073]

Ans Commodity Y: 11, 8, 6, 5 and MRS = -, 4, -3, -2, -1.

24. Complete the following schedule and answer the given questions. [5+5]

Combinations	Good -X	Good -Y	MRS <sub>xy</sub>
A	-	20	-
B	-	-	-
C	-	-	-
D	-	-	-
E	-	-	-
F	-	-	-

From the given table explain the marginal rate of substitution with the help of diagram. Ans Good -X = 1,2,3,4,5,6 Good - Y = 20,15,11,8,6,5 and MRS<sub>xy</sub> = -, -5, -4, -3, -2, -1

25. From the data given in the following table, derive TU and MU curves and find the equilibrium quantity at price Rs 15 [10]

Units	1	2	3	4	5	6	7	8
Total Utility	30	55	75	90	100	100	90	75

26. The following table gives four indifference schedules of an individual

Combinations	IC <sub>1</sub>		IC <sub>2</sub>		IC <sub>3</sub>		IC <sub>4</sub>	
	Q <sub>x</sub>	Q <sub>y</sub>						
A	3	12	6	12	8	15	10	13
B	4	7	7	9	9	12	12	10
C	6	4	9	6	11	9	14	8
D	9	2	12	4	15	6	18	7
E	14	1	15	3	19	5	20	6

- Using graph paper plot the four ICs on the same set of axes.[4]
  - Calculate the marginal rate of substitution of X for Y between the various points on IC<sub>1</sub>. [3] MRS<sub>xy</sub> = 5, 15, 0.666, 0.2
  - What is MRS<sub>xy</sub> at point C on IC<sub>1</sub>? [3] MRS<sub>xy</sub> = 0.666
27. Given the following marginal utility schedule of X and Y good for the individual and given the price of X and Price of Y is Re1 and the individual spends all income Rs 7 on X and Y.

Q <sub>x</sub>	1	2	3	4	5	6	7
MU <sub>x</sub>	15	11	9	6	5	3	1
MU <sub>y</sub>	12	9	6	5	3	2	1

- Indicate how much of X and Y the individual should purchase to maximize utility. [2] [X= 4 UNITS AND y = 3 Units]
- Show that the condition for constrained utility maximization is satisfied when the individual is at her optimum.
- Determine how much total utility the individual receives when s'he maximizes utility? How much utility would the individual get if he or she spent all income on

X and Y? [4][TU = 68 Utils: Tux = 50 utils and TUy = 38 utils]

28. Let us suppose, price of good x is Rs 10 and price of good y is Rs 15. A household budget of Rs 3000 to spend on good x and y. On the basis of this information answer the following questions
- Sketch the household budget constraints. [4][ $10Q_x + 15Q_y = 3000$ ,  $Q_x = 300$ ,  $Q_y = 200$ ]
  - If the household divides income equally on both good x and good y. Show where household ends up on the budget constraint. [4][ $Q_x = 150$ ,  $Q_y = 100$ ]
  - Suppose that the household increase income to Rs 5000. Find new budget constraint facing the household. [ $10Q_x + 15Q_y = 5000$ ,  $Q_x = 333.3$ ,  $Q_y = 500$ ]

### Chapter 5 Theory of Production

- State the production function. [2][2076]
- Prepare a list of factors that cause external diseconomies of scale. [2][2076]
- Point out various degrees of laws of returns to scale. [2][2075]
- How do you compute returns to scale with the help of Cobb-Douglas production function? [2][2074][2072]
- What are the causes responsible for the operation of law of increasing returns to scale? [2][2073]
- State the behavior of TP, AP and MP in 2<sup>nd</sup> stage of production under Law of Variable Proportion. [2][2071]
- What is isoquant? Explain its properties. [2+8][2075][2074]
- What is producer's equilibrium? How does producer attain equilibrium under given total cost outlay? [3+7]
- Explain the law of variable proportion. [10]
- State the types of production function. How does produce
  - Maximize output under given total cost outlay and
  - Minimize cost under given production quota? [3+7+5][2076]
- Explain producer's equilibrium with the help of isoquant. [12][2074]
- Fill up the following isoquant schedule. [2][2071]

Combination	Labour	Capital	MRTS <sub>LR</sub>
A	1	14	-
B	2		4
C	3		3
D	4		2
E	5		1

Ans Capital 14,10,7,5,4

- On the basis of following production, find out which one represents constant returns to scale, increasing returns to scale and decreasing returns to scale.  $Q = A K^{0.6} L^{0.4}$  [2] [SINCE  $A+B = 1$ , it represents constant returns to scale]
- On the basis of following production, find out which one represents constant returns to scale, increasing returns to scale and decreasing returns to scale.  $Q = A K^{0.3} L^{0.6}$  [2] [since  $a+b < 1$ , it represents decreasing returns to scale]
- On the basis of following production, find out which one represents constant returns to scale, increasing returns to scale and decreasing returns to scale.  $Q = A K^{0.75} L^{0.35}$  [2] [since  $a+b > 1$ , it represents increasing returns to scale]
- Suppose the price of capital is  $P_K = Rs 2$  and price of labour is  $P_L = Rs 5$ . Find out the slope of iso-cost line. [2][ $-\frac{5}{2}$ ]

17. Complete the following table

Combination	Labour	Capital	MRS <sub>LK</sub>
A	1	11	-
B	2	7	-
C	3	4	-
D	4	2	-
E	5	1	-

Ans = -,4,3,2,1

18. Which law of returns to scale is indicated by the following table and why?

Labour	Units of Capital	Units of production
1	2	100
2	4	175

19. Using the production  $Q = 16L + 8L^2 - L^3$ . Compute Total Product (TP) Average Product (AP) and MP and explain three stages of production. [10][2074]

ANS TP = 0,23,56,93,128,155,168,161 AP = 0,23,28,31,32,31,28,23, MP = 0,23,33,37,35,27,13,-7

20. You are given the following data of the total product at different variable factors.

[4+6][2073]

Units of variable factor	1	2	3	4	5	6	7
Total product	20	60	120	160	180	180	180

Calculate the AP and MP from the above schedule and draw a diagram representing TP, AP and MP. [4+6][2073]

Ans AP = 20, 30, 40, 36, 30, 25.71 MP = 40, 60, 40, 20, 0, 0

21. You are given the following data of the total product at different variable factors.

[4+6][2072]

Units of variable factor	0	1	2	3	4	5	6	7
Total product	0	23	56	93	128	155	168	161

a. Calculate marginal product and average product from the above information. [4][MP = -,23,33,37,35,27,13,-7 AP = -,23,28,31,32,31,28,23]

b. Show the relation of TP, AP and MP with the help of diagram. [6]

22. Consider the following production schedule:

Schedule 1				Schedule 2				Schedule 3			
Combination	L	K	Output	Combination	L	K	Output	Combination	L	K	Output
A	5	15	1500	E	5	20	2000	I	5	25	2500
B	6	11	1500	F	6	16	2000	J	6	21	2500
C	7	8	1500	G	7	13	2000	K	7	18	2500
D	8	6	1500	H	8	11	2000	L	8	16	2500

If a producer has total outlay of Rs 2400 which he has to spend two factors of production : Labour and Capital. The price of Labour and Capital are Rs 50 and Rs 100 respectively.

a. Compute the total cost for each combination containing in each production preference schedule and identify least cost combination which maximizes output at a given total cost outlay.

b. Sketch the isoquant map from the above information. [10][2072]

Ans Schedule 1 = A 1750 B 1400 C 1150 D 1000

Schedule 2 = E 2250, F 1900, G 1650, H 1500,

Schedule 3 = I 2750 J 2400 K 2150 L 2000

23. You are given the following data of total product at different variable factors:

Units of variable factors	0	1	2	3	4	5	6	7	8
Total Product	0	20	50	90	120	140	150	155	150

- a. Calculate marginal product and average product from the above information. [5]  
 $AP = - , 20, 25, 30, 28, 26, 22, 14, 18.75$   $MP = - , 20, 30, 40, 30, 20, 10, 5, -5$
  - b. Draw a diagram and show the relationship between TP, AP And MP.[5]
24. Suppose a production function is given as follows:  
 $Q = 10L + 5L^2 - L^3$  Find TP, AP and MP when  $L = 3$ . [10][TP=48 units MP= 13 AP =16]
25. Suppose a production function is given as  $Q = 2L + 5L^2 - L^3$
- a. Complete the following table[5]
  - b. show the relationship between TP, AP And MP.[5]

L	TP	AP	MP
1			
2			
3			
4			
5			

Ans TP = 0,6,20,33,24,10 AP = - ,6,10,11,6,1 MP= - ,6,14,13,-9,-14

26. Consider the following three production preference schedule: [10]

Schedule 1				Schedule 2				Schedule 3			
Combination	K	L	Output	Combination	K	L	Output	Combination	K	L	Output
A	10	300	2000	E	10	310	2400	M	10	370	3000
B	20	260	2000	F	20	270	2400	N	20	320	3000
C	30	230	2000	G	30	240	2400	O	30	280	3000
D	40	220	2000	H	40	230	2400	P	40	270	3000

If a producer has total outlay of Rs 30000 which he has to spend two factors of production : Labour and Capital. The price of Labour and Capital are Rs 100 and Rs 200 respectively.

- c. Compute the total cost for each combination containing in each production preference schedule and identify least cost combination which maximizes output at a given total cost outlay. [10]

Ans Total Cost Schedule 1 = Rs 32000 Rs 30000 Rs 29000 Rs 30000

Schedule 2 Rs 33,000 Rs 31,000, Rs 3000 , Rs31,000

Schedule 3 Rs 39,000, Rs 36,000, Rs 34,000, Rs 35,000.

Optimum inputs are 30 units of capital and 240 labours.

### Chapter 6 Cost and Revenue Curves

1. Write the relationship between MR and AR.[2][2075]
2. How is short run total cost derived? [2][2074]
3. What will be the MR when total revenue is constant?[2][2074]
4. Write any two differences between fixed and variable cost.[2][2074]
5. Why AR and MR curves are horizontal straight line in perfect combination? [2][2072]
6. Define economic cost.[2][2072]
7. Why does MR remain constant under perfect competitive market?[2][2072]
8. Explain the behavior of AFC , AVC, and AC WHY IS AC U-shaped?[7+3][2076]
9. What is AR and MR? Show the relationship between AR and MR curves under monopoly. [3+7][2073]
10. Define average cost and marginal cost and show the relationship between them. [10][2074]
11. Derive and define LAC. Why is it less pronounced than SACs? [6+5+4][2075]
12. Define cost. Explain the behavior of short run average cost curves. [3+12][2073]

13. What do you mean by cost? Explain the derivation of long run average cost curve. (LAC). [15][2072]
14. Define revenue. Explain the revenue curves in different markets. [3+12][2071]
15. Let demand function  $Q = 200 - 10P$ . Determine AR at  $Q = 100$  units. [2][2076][Rs10]
16. Let cost function  $C = 868 + 49Q + 0.5Q^2$ . What is the value of fixed cost? [2][2073][Rs 868]
17. Derive price when  $EP = 0.5$  and  $MR = 20$ . [2][2071][Rs -20]
18. A firm produces 10 units of output, where its total fixed cost is Rs 100 and total cost is Rs250. Find TVC and AVC. [2]Ans Rs 150 and Rs 15
19. Compute price AR when  $EP = 0.5$  and  $MR = -10$  [2][Rs 10]
20. Calculate the MR when  $EP = 1.5$  and  $AR = 15$  [2][Rs5]
21. Let us suppose  $AR = 20$  and  $MR = 10$ . Compute the price elasticity of demand. [2][Ans 2]
22. Suppose a firm produces an output of 10 units where the firms  $SAC = LAC = SMC = Rs 25$ . What is the LMC at this level of output? [2]Ans 25
23. Complete the following cost schedule. [10][2075]

Output	TFC	TVC	TC	AFC	AVC	AC	MC
0	100	-	100	X	X	X	X
1	100	-	110	-	-	-	-
2	100	-	118	-	-	-	-
3	100	-	124	-	-	-	-
4	100	-	132	-	-	-	-
5	100	-	150	-	-	-	-
6	100	-	180	-	-	-	-
7	100	-	224	-	-	-	-
8	100	-	280	-	-	-	-
9	100	-	360	-	-	-	-

Ans TVC= 10,18,24,32,50,80,124,180,160

AFC = 100,50,33.33,25,20,16.6,14.2,12.5,11.1

AVC = 10,9,8,8,10,13.3,17.7,22.5,28.9

AC= 110,59,41.33,33,30,30,32,35,40

MC= 10,8,6,8,18,30,44,44,80

24. Complete the following table and answer the given questions [4][2072]

Output	TFC	TVC	TC	AFC	AVC	AC	MC
0	50	-	-	-	-	-	-
1	-	30	-	-	-	-	-
2	-	55	-	-	-	-	-
3	-	77	-	-	-	-	-
4	-	102	-	-	-	-	-
5	-	132	-	-	-	-	-
6	-	169	-	-	-	-	-
7	-	216	-	-	-	-	-
8	-	278	-	-	-	-	-

a. Define TFC and TVC. [2]

b. Explain the relationship between average cost and marginal cost. [4]

Ans TFC = 50 FOR EACH OUTPUT, tc = 50,80,105,127,152,182,219,266,328,

AFC = -,50,25,16.67,12.5,10,8.33,7.14,6.25  
 AVC = -,30,27.5,25.6,25.67,26.4,28.17,30.86,24,  
 AC= -,80,52.5,42.33,38,36.4,36.5,38,41  
 MC= -,30,25,22,25,30,37,47,62

25. Consider the following table

Output	TFC	TVC	TC	AFC	AVC	AC	MC
0	0	200	200	-	-	-	-
1	180	-	-	-	-	-	-
2	-	540	540	-	-	-	-
3	-	-	-	-	160	-	-
4	-	-	-	-	-	200	-
5	-	-	-	-	1478	-	-
6	-	-	-	-	-	-	160
7	-	1280	1280	-	-	-	-
8	1300	-	-	-	-	-	-
9	-	-	-	-	-	-	260
10	-	-	-	-	186	-	-

Complete the above table. [6]

Why does TVC increase when output increases? [4]

Ans TFC = 200 for each output, TVC =

0,180,340,480,600,740,900,1080,1300,1560,1860

TC= 200,380,540,680,800,940,1100,1280,1500,1760,2060

AFC = -,200,100,66.6,50,40,33.3,28.05,25,22.2,182.85,187.5,195.5,206

MC = -,180,160,140,120,140,160,180,220,260,300

26. Complete the following table and plot the total fixed cost curve, TVC, TCC and explain the nature and relationships of TFC, TVC, and TC. [10]

Quantity	TFC	TVC	TC
0	-	0	30
1	-	20	50
2	-	30	60
3	-	50	80
4	-	80	110
5	-	120	150

27. Consider the following table and answer the following questions

Output	TFC	TVC	TC	AFC	AVC	AC	MC
0	100	-	-	-	-	-	-
1	-	50	-	-	-	-	-
2	-	90	-	-	-	-	-
3	-	120	-	-	-	-	-
4	-	140	-	-	-	-	-
5	-	175	-	-	-	-	-
6	-	230	-	-	-	-	-
7	-	310	-	-	-	-	-
8	-	400	-	-	-	-	-

Fill up the table.

From the given information explain relationship between output and cost

From the given information explain relationship between AC and MC.

Ans TC = 100,150,190,220,240,275,330,410

AFC = -,100,50,33.3,25,20,16.6,14.2,12.5,500

AVC = 0,50,45,40,35,35,38.3,44.2,50

ATC= 0,150,95,73.3,60,55,55,58.5,62.5

MC= 0,50,40,30,20,35,55,80,90

28. Total cost function of a producer is given by  $TC = 1000 + 10Q - 0.9Q^2 + 0.004Q^3$ . Find TFC, TVC, TC, AFC, AVC And MC to produce 5 units of output.[10]

Ans 1000, 28, 1.28, 5.6, 1.03

29. Shristi Garment Industries produces 500 cotton shirts and 250 cotton jackets per year. The total cost is Rs 25000. If the industry produced 500 shirts only the cost would be Rs 18000. If the industry produced 250 jackets only. The cost would be Rs 12000. Calculate the degree of economies of scope. [10][Ans 20

### Chapter 7 Theory of Product Pricing

1. State the degrees of price-discrimination. [2][2076]
2. Prepare a list of features of oligopoly. [2][2076][2073][2072]
3. What are the causes responsible for raising monopoly?[2][2075]
4. What are the conditions for price discrimination? [2][2075]
5. Define dumping. [2][2074][2072]
6. Prepare a list of two examples of oligopoly market in Nepal.[2][2072]
7. What conditions are necessary for the firms to be in equilibrium in all markets?[2][2072]
8. The firm under perfect competition in long run always earns abnormalprofit. Do you agree with this statement? [2][2071]
9. Define cost plus pricing.[2]
10. What is incremental cost pricing?[2]
11. Define administered pricing.[2]
12. Define skim pricing method.[2]
13. What is export pricing?[2]
14. What is penetration pricing?[2]
15. What are the similarities and dissimilarities between monopoly and monopolistic competition?[10][2076]
16. What is price discrimination? Explain the conditions necessary for price discrimination.[10][2074]
17. Derive short run supply curve of a firm and industry under perfect competition.[10][2072]
18. How do you derive short run supply curve of a firm under perfect competition?[10][2072]
19. Explain the cost plus pricing method of pricing practice.[10]
20. Discuss the predatory pricing practices.[10]
21. Explain the incremental cost pricing practice. [10]
22. Discuss skim pricing practice.[10]
23. What is monopolistic competition? How the price and the output are determined under it in short run?[3+12][2075][2074][2072]
24. What is price discrimination? [2071]Explain the conditions necessary for price discrimination. How the price and the output are determined under discriminating monopoly? [5+10][2073]
25. What is monopolistic competition? How the price and the output are determined under it in long run?[3+12][2072]

26. How the price and the output are determined with the help of third degree price discrimination?[12][2071]
27. What level of profit will be obtained by the competitive firm at the condition of  $MR=Rs200$  and  $AC =Rs 200$  in the long run.[2][Since in the long run  $AC=AR=MC=MR=P$ , the firm will hhusst earn normal profit.]
28. Calculate profit of the firm when  $P= Rs30$ ,  $Q= 10u$  nits and  $AC = Rs 25$ .[2][Ans Rs 50]
29. Fill up the following table.

Units of output	P	TR	TC	Profit
1	10	-	5	-
2	9	-	12	-
3	8	-	18	-
4	7	-	22	-
5	6	-	30	-

Ans TR = 10,18,24,28,30 Profit = 5,6,6,6,0

30. From the following table find out equilibrium price and write down why is it equilibrium price? [2]

Price	Demand	Supply
50	5	25
40	10	20
30	15	15
20	20	10
10	25	5

Ans Rs 30 is equilibrium because at this price both demand and supply are equal.

31. Let demand function  $P= 100-4Q$ , cost function  $TC= 50+6Q^2$ , Where  $Q=$  Output  
 $P=$  Price
- a. Compute TR, TC AND Profit at the output range of 0-10 units
- b. Graph TR, TC and profit curve and explain TR-TC approach of firm's equilibrium.  
 [4+6][2076]Ans  
 $TR = 0, 96, 184, 264, 336, 400, 456, 504, 544, 576, 600$   
 $TC= 50, 56,74,104,146,200,266,344,44,536,650$   
 $Profit =-50,40,110,160,190,200,190,160,110,40,-50$

32. Consider the following table. [10][2071]

Price(Rs)	Quantity	Total Cast	Marginal cost	Total Revenue	Marginal Revenue	Profit
11	0	10	-	-	-	-
10	1	12	-	-	-	-
9	2	17	-	-	-	-
8	3	21	-	-	-	-
7	4	26	-	-	-	-
6	5	33	-	-	-	-
5	6	43	-	-	-	-
4	7	60	-	-	-	-
3	8	80	-	-	-	-

- a. Complete the table.[Ans  $MC= -,2,5,4,5,7,10,17,20$   $TR = 0,10,18,24,28,30,30,28,24$   $MR = -,10,8,6,4,2,0,-2,-4$   $Profit = -10,-2,1,3,2,-3,-$

13,-32,-56]

- b. Derive TR and TC curve according to table  
 c. Derive profit and identify the maximum profit.[Max profit is Rs 3 at 3<sup>rd</sup> unit of output]
33. The firms cost function and revenue function are given as  $C= 25+ 3Q^2$   $P=50-2Q$ . Find profit maximizing output and total profit.[5+5][5 units and Rs 100]
34. Answer the questions given below on the basis of the revenue and cost schedule of a competitive firm.

Output(Q)	Price (P)	TR	TC	Profit	MR	MC
1	10	-	12	-	-	-
2	10	-	14	-	-	-
3	10	-	15	-	-	-
4	10	-	17	-	-	-
5	10	-	20	-	-	-
6	10	-	25	-	-	-
7	10	-	35	-	-	-
8	10	-	-	-	-	-

a. Complete the table.[4]

Output(Q)	Price (P)	TR	TC	Profit	MR	MC
1	10	10	12	-	10	-
2	10	20	14	2	10	2
3	10	30	15	6	10	1
4	10	40	17	15	10	2
5	10	50	20	23	10	3
6	10	60	25	60	10	5
7	10	70	35	35	10	10
8	10	80	-	35	10	15

- b. Find profit maximizing output by TR and TC approach. [2][6<sup>th</sup> and 7<sup>th</sup> unit of output]
- c. Find profit maximizing output by MR and MC approach. [2][MR=MC=7<sup>th</sup> unit of output.]
- d. What is the relationship between MC and a price of 7 units of output?  
 [MC=.Price ]
35. Consider the following schedule

36.

Q	0	1	2	3	4	5	6	7	8
TR	0	110	200	270	320	350	360	350	320
TC	200	220	236	248	264	300	360	448	560

Graph TR and TC curves and explain the equilibrium of the firm according to TR and TC approach. [5+5]

37. The following table shows output and total cost of a perfectly competitive firm.

Q	P	TC	TR	Profit
0	30	20	0	-20
1	30	30	30	0
2	30	45	60	15
3	30	65	90	25
4	30	90	120	30

5	30	125	150	25
6	30	160	180	20
7	30	220	210	-10

Graph TR and TC curves and explain the equilibrium of the firm according to TR and TC approach. [5+5]

38. A perfectly competitive firm has the following total cost.

Q	0	1	2	3	4	5	6
TC	20	30	42	55	69	84	100

How much will the firm produce if the price of the product is Rs 14 per unit? How will it change its output if price per unit rises to Rs 16? [5+5] [4 units and 6 units]

### Chapter 8 Theory of Factor Pricing

1. What are the determinants of supply of loan able funds? [2][2076]
2. Write any four assumptions of marginal productivity theory of wages. [2][2075]
3. What are the motives of demand for money according to Keynes. [2][2075][2074]
4. What are the major causes which arise profit according to dynamic theory of profit? [2][2073]
5. What are the determinants of demand of loan able funds? [2][2072]
6. For what purposes do people hold money in liquid form according to Keynes? [2][2072]
7. List five changes as described by JB Clark in his dynamic theory of profit. [2][2071]
8. Explain the modern theory of rent. [10][2075][2073][2072]
9. Explain the liquidity preference theory of interest. [10][2074]
10. Explain the dynamic theory of profit. [10][2072]
11. Explain the marginal productivity theory of wages. [15][2074]
12. Explain the loanable fund theory of interest. [15][2073]
13. Define interest. Explain the determination of rate of interest with the help of liquidity preference theory. [15][2072]
14. Critically examine the liquidity preference theory. [15][2071]
15. If actual earning is Rs 10,000 and transfer earning is Rs 7,000, what will be economic rent? [2][Rs 3000]
16. Calculate the economic profit when business profit is Rs 50,000 and price factors of production provided by the entrepreneur is Rs 20,000. [2][Ans Rs 30,000]
17. From the following income statement find the accounting profit and economic profit. [2]

Revenue=Rs 80,000

Cost owner's time= Rs 25,000

Cost of raw material = Rs 50,000

Cost of Rs 30,000 used at 10% interest = Rs 3,000 Ans Rs 2,000 and Rs,3,000.

18. Complete the following table assuming price of factor Rs 3.

Quantity factor(X)	Total Product (TP)	MPP	VMP
0	0	-	--
1	15	-	--
2	21	-	--
3	26	-	--
4	30	-	--
5	33	-	--

Ans

Quantity factor(X)	Total Product (TP)	MPP	VMP
0	0	0	0
1	15	15	45
2	21	6	18
3	26	5	15
4	30	4	12
5	33	3	9

What will be wage of labor when  $VMP_L = 100 - 3L$  and supply curve is  $W = 2L$  also find out equilibrium employment. Ans equilibrium employment = 20 and wage rate = Rs 40.

19. The demand curve for labor in these three labor market is as given below

$$W = 120 - 2L$$

And supply curve as  $w = 3L$  Determine the equilibrium level of employment and wage (24 and Rs 72) [5+5]

20. Consider the following schedule:

L	TPL	MPL	VMPL
1	20	-	-
2	36	-	-
3	48	-	-
4	56	-	-
5	60	-	-

Complete the above schedule and compute profit maximizing number of labor at price of product = \$5 and wage rate = \$60.

L	TPL	MPL	VMPL
1	20	20	100
2	36	16	80
3	48	12	60
4	56	8	40
5	60	4	20

21. Consider the following schedule.

L	TPL	MPL	VMPL
0	0	-	-
1	22	-	-
2	40	-	-
3	56	-	-
4	70	-	-
5	82	-	-
6	92	-	-
7	100	-	-
8	106	-	-

L	TPL	MPL	VMPL
0	0	-	-
1	22	22	66
2	40	18	54
3	56	16	48

4	70	14	42
5	82	12	36
6	92	10	30
7	100	8	24
8	106	6	18

Compute profit maximizing number of labor at price of product = \$3 and wage rate = \$48 Ans 3 units.