

## Question Paper

### Business Economics – I (MB1B3): January 2009

- Answer all 78 questions.
- Marks are indicated against each question.

Total Marks : 100

1. Which of the following is **not** responsible for an increase in demand for a commodity? [<Answer>](#)
- (a) An increase in consumers preference for the commodity
  - (b) A decrease in the commodity's price
  - (c) A decrease in the price of the complementary good
  - (d) An increase in consumers' income
  - (e) An increase in the price of the substitute good.
- (1 mark) [<Answer>](#)
2. The demand curve faced by a perfectly competitive firm is
- (a) Vertical
  - (b) Horizontal
  - (c) Negatively sloped
  - (d) Positively sloped
  - (e) Rectangular hyperbola.
- (1 mark) [<Answer>](#)
3. In the long-run equilibrium, a perfectly competitive firm produces the output at which price is equal to
- I. Short run average cost.
  - II. Long run average cost.
  - III. Short run marginal cost.
- (a) Only (I) above
  - (b) Only (II) above
  - (c) Both (I) and (II) above
  - (d) Both (II) and (III) above
  - (e) All (I), (II) and (III) above.
- (1 mark) [<Answer>](#)
4. Which of the following statements is **not true** regarding opportunity cost?
- (a) It is the value of the next best use for an economic good
  - (b) It is the value of a sacrificed alternative
  - (c) It is useful in decision-making
  - (d) It does not take into consideration, the cost of time
  - (e) It is useful for valuing non-marketed goods.
- (1 mark) [<Answer>](#)
5. The income effect refers to the effect of a change in the price of a product on the
- (a) Consumer's purchasing power
  - (b) Consumer's bargaining power
  - (c) Consumer's willingness
  - (d) Producer's bargaining power
  - (e) Monopoly power.
- (1 mark) [<Answer>](#)
6. The demand for a diamond ring is said to be
- (a) Perfectly elastic
  - (b) Unitary elastic
  - (c) Relatively inelastic
  - (d) Relatively elastic
  - (e) Perfectly inelastic.
- (1 mark) [<Answer>](#)
7. A perfectly competitive firm can increase its sales revenue by
- (a) Reducing the price
  - (b) Increasing the price
  - (c) Increasing the production
  - (d) Increasing the expenditure on advertising
  - (e) Increasing the sales force.
- (1 mark)

[<Answer>](#)

8. The following data is available for a firm:

Output (Units)	Total Cost (Rs.)
0	50,000
1	51,000
2	54,000
3	58,000
4	60,000
5	75,000

The profit maximizing level of output for this firm is

- (a) 0
- (b) 1 unit
- (c) 3 units
- (d) 5 units
- (e) The information is not sufficient to determine profit maximizing level of output.

(1 mark)

[<Answer>](#)

9. The law of diminishing marginal utility explains

- I. The derivation of law of demand.
- II. Paradox of value.
- III. The redistribution of income.

- (a) Only (II) above
- (b) Only (III) above
- (c) Both (I) and (II) above
- (d) Both (I) and (III) above
- (e) All (I), (II) and (III) above.

(1 mark)

[<Answer>](#)

10. Which of the following is/are property (ies) of isoquants?

- I. An isoquant is upward sloping to the right.
- II. A higher isoquant represents a lower output.
- III. No two isoquants intersect or touch each other.

- (a) Only (I) above
- (b) Only (III) above
- (c) Both (I) and (II) above
- (d) Both (II) and (III) above
- (e) All (I), (II) and (III) above.

(1 mark)

[<Answer>](#)

11. In the short-run, firms cannot vary the fixed costs incurred. As the prices are fixed in perfect competition, producers have to maximize the profit where

- (a) Average cost = Marginal revenue
- (b) Average fixed cost = Marginal revenue
- (c) Average variable cost = Marginal revenue
- (d) Marginal cost = Marginal revenue
- (e) Total cost = Marginal revenue.

(1 mark)

[<Answer>](#)

12. Which of the following is/are form(s) of market structures, where a few firms produce either a homogeneous product or products which are close but not perfect substitutes of each other?

- I. Oligopoly.
- II. Monopolistic competition.
- III. Monopoly.
- IV. Perfect competition.

- (a) Only (I) above
- (b) Only (II) above
- (c) Only (III) above
- (d) Only (IV) above
- (e) Both (I) and (II) above.

(1 mark)

13. The kinked demand curve is used to lessen [<Answer>](#)
- (a) Collusion
  - (b) Price competition
  - (c) Price leadership
  - (d) Price rigidity
  - (e) Non-price competition.
- (1 mark)** [<Answer>](#)
14. When total utility is maximum, the marginal utility would be [<Answer>](#)
- (a) Zero
  - (b) Infinity
  - (c) Positive and increasing
  - (d) Negative and declining
  - (e) Positive and declining.
- (1 mark)** [<Answer>](#)
15. Which of the following most closely resembles an oligopoly? [<Answer>](#)
- (a) The rice market in India
  - (b) The bike repair stations in Mumbai
  - (c) The economy hotels in Hyderabad
  - (d) The cigarette industry in India
  - (e) The toilet soap industry in India.
- (1 mark)** [<Answer>](#)
16. Marginal productivity theory is developed as an explanation to which of the following points? [<Answer>](#)
- I. Reward of each factor unit is equal to its marginal productivity.
  - II. Reward of each factor of production will be different in every use.
  - III. In the long-run, under perfect competition, each factors of production will get its remuneration that will be equal to its marginal revenue productivity (MRP) which also equals its average revenue productivity.
- (a) Only (I) above
  - (b) Only (III) above
  - (c) Both (I) and (III) above
  - (d) Both (II) and (III) above
  - (e) All (I), (II) and (III) above.
- (1 mark)** [<Answer>](#)
17. Which of the following wages are paid in the form of commodities? [<Answer>](#)
- (a) Time wages
  - (b) Kind wages
  - (c) Piece wages
  - (d) Service wages
  - (e) Task wages.
- (1 mark)** [<Answer>](#)
18. The reward for capital is known as [<Answer>](#)
- (a) Rent
  - (b) Interest
  - (c) Wages
  - (d) Profit
  - (e) Commission.
- (1 mark)** [<Answer>](#)
19. Which of the following is/are the non-insurable risks given by Frank H. Knight? [<Answer>](#)
- I. Risk of competition.
  - II. Risk arising out of changes in technology.
  - III. Market conditions risk.
- (a) Only (I) above
  - (b) Only (III) above
  - (c) Both (I) and (III) above
  - (d) Both (II) and (III) above
  - (e) All (I), (II) and (III) above.
- (1 mark)**

20. Which of the following statements is **true** according to the Ricardian theory? [<Answer>](#)
- (a) There exists perfect competition
  - (b) Different lands have same level of fertility
  - (c) Land is located at the same location
  - (d) The supply of land is variable and the existing quantity of land gifted by nature can be increased or decreased
  - (e) Fertility of land is due to human effort. **(1 mark)** [<Answer>](#)
21. The demand for a durable good tends to be more elastic, when [<Answer>](#)
- (a) There are many substitutes for the good
  - (b) There are few substitutes for the good
  - (c) There are few complements for the good
  - (d) There are many complements for the good
  - (e) There are no substitutes for the good. **(1 mark)** [<Answer>](#)
22. The cost of inventory and future rent charges for a warehouse that have to be incurred as a part of a lease agreement are examples of [<Answer>](#)
- (a) Marginal cost
  - (b) Incremental cost
  - (c) Sunk cost
  - (d) Opportunity cost
  - (e) Indirect cost. **(1 mark)** [<Answer>](#)
23. In which of the following methods for evaluating project feasibility, the company calculates the ratio of present value of cash inflows and the present value of cash outflows? [<Answer>](#)
- I. Payback period.
  - II. Profitability index.
  - III. Internal rate of return.
  - IV. Net present value.
- (a) Only (I) above
  - (b) Only (II) above
  - (c) Both (I) and (III) above
  - (d) Both (II) and (III) above
  - (e) All (I), (II), (III) and (IV) above. **(1 mark)** [<Answer>](#)
24. A movement along the demand curve for coffee is best described as [<Answer>](#)
- (a) A decrease in demand
  - (b) A change in quantity demanded
  - (c) A change in demand
  - (d) An increase in demand
  - (e) No change in demand. **(1 mark)** [<Answer>](#)
25. Suppose Pepsi, Coke and 7-Up are substitute products. If the price of Pepsi decreases relative to the price of Coke and 7-Up, the demand for [<Answer>](#)
- (a) Coke and 7-Up will decrease
  - (b) Coke and 7-Up will increase
  - (c) Coke will decrease
  - (d) 7-Up will decrease
  - (e) Coke will remain the same. **(1 mark)** [<Answer>](#)
26. Which of the following statements is **correct** concerning the relationships among the firm's total cost functions? [<Answer>](#)
- (a)  $TC = MC + AC$
  - (b)  $TVC = TFC/TC$
  - (c)  $TC = TFC - TVC$
  - (d)  $TFC = TC - TVC$
  - (e)  $TVC = TFC + TC$ . **(1 mark)**

27. Which of the following is **true** of the relationship between the marginal cost function and the average cost? [<Answer>](#)
- (a) The ATC curve intersects the MC curve at its minimum point
  - (b) If MC is greater than ATC then ATC is falling
  - (c) If MC is less than ATC then ATC is increasing
  - (d) If MC is less than ATC then ATC is constant
  - (e) The MC curve intersects the ATC curve at its minimum point.
- (1 mark)** [<Answer>](#)
28. Which of the following is **not** a feature of a "Price taking" firm? [<Answer>](#)
- (a)  $TR = P \times Q$
  - (b)  $AR = \text{Price}$
  - (c)  $\text{Marginal Revenue} = \text{Price}$
  - (d) Negatively-sloped demand curve
  - (e) At equilibrium,  $MR = MC$ .
- (1 mark)** [<Answer>](#)
29. The positively-sloped part of the long-run average total cost curve is due to which of the following? [<Answer>](#)
- (a) Diseconomies of scale
  - (b) Diminishing returns
  - (c) The firm being able to take advantage of large-scale production techniques as it expands its output
  - (d) The increase in productivity that results from specialization
  - (e) The mechanization of managerial function.
- (1 mark)** [<Answer>](#)
30. Which of the following statements defines 'Production Function'?
- (a) The relationship between the quantity of inputs and the firm's marginal cost of production
  - (b) The relationship between market price and quantity supplied
  - (c) The relationship between the firm's total revenue and the cost of production
  - (d) The relationship between the firm's marginal revenue and the cost of production
  - (e) The relationship between the maximum quantity of output that can be produced from a given amounts of various inputs for a given technology.
- (1 mark)** [<Answer>](#)
31. Which of the following circumstances refers to a mixed economy?
- (a) Demand determines what goods and services are to be produced
  - (b) All the economic decisions are taken by the Government
  - (c) Prices are automatically fixed by the market forces
  - (d) Government exercises its power in the important sectors while in the other sectors a free market economy exists
  - (e) Prices are only fixed by the producers.
- (1 mark)** [<Answer>](#)
32. Which of the following is **not** a common characteristic of perfect competition and monopolistic competition? [<Answer>](#)
- (a) Large number of sellers
  - (b) Free entry and exit
  - (c) Homogenous product
  - (d) Large number of buyers
  - (e) Normal profits in long run.
- (1 mark)** [<Answer>](#)
33. Which of the following is **true**, if a firm does **not** produce any output in the short run? [<Answer>](#)
- (a) Its total cost will be zero
  - (b) Its variable cost will be positive
  - (c) Its fixed cost will be positive
  - (d) Its average cost will be zero
  - (e) Its fixed costs will be negative.
- (1 mark)** [<Answer>](#)
34. A shortage in the market would result when
- (a) A price ceiling is below the equilibrium price
  - (b) A price ceiling is above the equilibrium price
  - (c) A price ceiling is equal to the equilibrium price
  - (d) Government cancels a price ceiling
  - (e) A price ceiling is half of the equilibrium price.
- (1 mark)** [<Answer>](#)

35. Long-run equilibrium of a competitive industry indicates that [<Answer>](#)
- (a) Some firms make profits and others make losses
  - (b) It earns super normal profits
  - (c) Some firms earn normal profits while the rest earn super normal profits
  - (d) All firms earn normal profits
  - (e) Some firms exit the industry while others enter.
- (1 mark)** [<Answer>](#)
36. Which of the following is consistent with the law of supply? [<Answer>](#)
- (a) As the price of pens decreases, the supply of pens remains the same, ceteris paribus
  - (b) As the price of pens decreases, the supply of pens increases, ceteris paribus
  - (c) As the price of pens increases, the quantity supplied of pens increases, ceteris paribus
  - (d) As the price of pens increases, the quantity supplied of pens decreases, ceteris paribus
  - (e) As the price of pens increases, the quantity supplied of pens remains the same, ceteris paribus.
- (1 mark)** [<Answer>](#)
37. The point beyond which a rational firm would **not** employ labor is [<Answer>](#)
- (a) When the average product of labor is equal to marginal product of labor
  - (b) When the marginal product of labor is maximum
  - (c) When the marginal product of labor is zero
  - (d) When the total product of labor is zero
  - (e) When the average product of labor is zero.
- (1 mark)** [<Answer>](#)
38. The law of equi-marginal utility explains that [<Answer>](#)
- (a) Marginal utilities of commodity X is positive and Y is negative
  - (b) Marginal utilities of commodities X and Y are equal
  - (c) Marginal utilities of the last rupee spent on commodities X and Y are equal
  - (d) Marginal utilities of commodities X and Y are negative
  - (e) Marginal utilities of commodities X and Y are positive.
- (1 mark)** [<Answer>](#)
39. The total product reaches maximum, when [<Answer>](#)
- (a) Marginal Product = Average Product
  - (b) Average Product = Zero
  - (c) Marginal Product = Zero
  - (d) Marginal Cost = Average Cost
  - (e) Marginal Revenue = Marginal Cost.
- (1 mark)** [<Answer>](#)
40. Excess capacity is the essential characteristic of the firms in [<Answer>](#)
- (a) Monopoly
  - (b) Perfect competition
  - (c) Monopolistic competition
  - (d) Oligopoly
  - (e) Duopoly.
- (1 mark)** [<Answer>](#)
41. Consumer expenditure data in East India revealed that gold ornaments are a luxury for them. The income elasticity of demand for gold ornament in East India is [<Answer>](#)
- (a) Greater than one
  - (b) Equal to one
  - (c) Zero
  - (d) Greater than zero but less than one
  - (e) Less than zero.
- (1 mark)** [<Answer>](#)
42. Average product of a variable input is [<Answer>](#)
- (a) The total product divided by the price of the product
  - (b) The same as marginal product when marginal product is maximum
  - (c) The total product divided by the amount of variable input used
  - (d) The same as total product when marginal product is zero
  - (e) The amount of additional output that can be produced by using one more unit of the variable input.
- (1 mark)** [<Answer>](#)

43. The supply curve of a monopolist [<Answer>](#)
- (a) Is the portion of MC curve that lies above the AVC curve
  - (b) Is the portion of MC curve that lies above the AC curve
  - (c) Is vertical
  - (d) Is horizontal
  - (e) Is absent. (1 mark) [<Answer>](#)
44. The management of a company has finally agreed to increase the salaries of its temporary staff by 10%. Which of the following will **not** be affected by the decision? [<Answer>](#)
- (a) Economic costs
  - (b) Accounting profits
  - (c) Direct costs
  - (d) Implicit costs
  - (e) Variable costs. (1 mark) [<Answer>](#)
45. Which of the following represents the marginal rate of technical substitution (MRTS)? [<Answer>](#)
- (a) Slope of the isocost line
  - (b) Slope of the indifference curve
  - (c) Slope of the isoquant
  - (d) Slope of the budget line
  - (e) Slope of the average cost curve. (1 mark) [<Answer>](#)
46. A digital diary manufacturing firm is operating in a perfectly competitive market. In the long run, the firm will continue in business so long as it covers [<Answer>](#)
- (a) Average costs
  - (b) Total costs
  - (c) Marginal costs
  - (d) Implicit costs
  - (e) Sunk costs. (1 mark) [<Answer>](#)
47. Which of the following is an example of fixed cost? [<Answer>](#)
- (a) Payments for raw materials
  - (b) Wages and salaries of temporary staff
  - (c) Transportation charges
  - (d) Charges for fuel and electricity
  - (e) Contractual rent for building. (1 mark) [<Answer>](#)
48. Which of the following cost curves is **not** 'U' shaped? [<Answer>](#)
- (a) Average variable cost curve
  - (b) Short run average cost curve
  - (c) Long run average cost curve
  - (d) Long run marginal cost curve
  - (e) Average fixed cost curve. (1 mark) [<Answer>](#)
49. The break-even point for a perfectly competitive firm is achieved when [<Answer>](#)
- (a) Average Revenue = Marginal Cost
  - (b) Average Revenue = Average Cost
  - (c) Total Revenue = Total Fixed Cost
  - (d) Total Revenue = Marginal Cost
  - (e) Marginal Revenue = Average Variable Cost. (1 mark) [<Answer>](#)
50. Which of the following is **not** a feature of a monopoly market? [<Answer>](#)
- (a) Presence of a single producer
  - (b) Absence of close substitutes for the product
  - (c) Entry barriers for the new firms
  - (d) Presence of a single buyer
  - (e) Marginal revenue is less than average revenue. (1 mark)

51. The demand function for a commodity is estimated to be [<Answer>](#)  
 $Q_d = 5,50,000 - 55P$   
The theoretical highest price that can prevail in the market is
- (a) Rs. 5,000
  - (b) Rs. 8,000
  - (c) Rs. 10,000
  - (d) Rs. 15,000
  - (e) Rs. 55,000.

(2marks)

52. The supply and demand functions of a commodity are estimated as follows: [<Answer>](#)  
 $Q_d = 1,600 - 200P$   
 $Q_s = 1,000P - 2,000$   
At equilibrium, the elasticity of supply for the commodity is
- (a) 1
  - (b) 3
  - (c) 5
  - (d) 6
  - (e) 8.

(2marks)

53. Demand and supply functions for a product are estimated as follows: [<Answer>](#)  
 $Q_d = 12,000 - 4P$   
 $Q_s = 4,000 + 6P$   
If the government imposes a sales tax of Rs.200 per unit, the new equilibrium price will be
- (a) Rs.920
  - (b) Rs.800
  - (c) Rs.640
  - (d) Rs.200
  - (e) Rs.180.

(2marks)

54. The demand function for Fountain pens is estimated as follows: [<Answer>](#)  
 $Q_R = 20,000 - 2,500P_R + 5Y + 100P_C$   
Where  $Q_R$  = Quantity of Fountain pens demanded  
 $P_R$  = Price of Fountain pen  
 $P_C$  = Price of Competitor's product  
 $Y$  = Per capita income of the consumer  
If the current price of Fountain pen is Rs.4, the price of the competitor's product is Rs.10 and per capita income is Rs.4,000, the income elasticity of demand is
- (a) 1.5500
  - (b) 1.2220
  - (c) 0.8270
  - (d) 0.7092
  - (e) 0.6452.

(2marks)

55. The demand and supply functions of a good are given as follows: [<Answer>](#)  
 $Q_d = 19,000 - 300P$   
 $Q_s = 17,000 + 100P$   
What is the equilibrium quantity of the good?
- (a) 10,500 units
  - (b) 16,000 units
  - (c) 17,000 units
  - (d) 17,500 units.
  - (e) 20,000 units.

(2marks)



[<Answer>](#)

56. The marginal utility function of a consumer is estimated to be

$$MU = 0.60Y$$

How many units of good Y the consumer would be willing to consume if the price of the good Y is Rs.30?

- (a) 10 units
- (b) 20 units
- (c) 40 units
- (d) 50 units
- (e) 60 units.

(2marks)

[<Answer>](#)

57. For a consumer in equilibrium, marginal rate of substitution of X for Y ( $MRS_{XY}$ ) is 3. If price of the good X ( $P_X$ ) is Rs.150, price of good Y ( $P_Y$ ) is

- (a) Zero
- (b) Rs. 25
- (c) Rs. 50
- (d) Rs.150
- (e) Rs.450.

(1 mark)

[<Answer>](#)

58. A wheat producer finds that the price elasticity of demand for wheat is infinity. If the producer decides to increase the price of the wheat by 14 %, the quantity demanded for wheat will

- (a) Increase by 14%
- (b) Remain the same
- (c) Decline to zero
- (d) Decrease by 14%
- (e) Become infinity.

(1 mark)

[<Answer>](#)

59. A consumer is indifferent between the combinations A and B.

Combination	Good X (Units)	Good Y (Units)
A	8	14
B	10	10

Absolute value of marginal rate of substitution ( $MRS_{XY}$ ) for the consumer is

- (a) 0.80
- (b) 1.00
- (c) 1.20
- (d) 2.00
- (e) 4.00.

(1 mark)

[<Answer>](#)

60. Assume that the consumer is in equilibrium consuming commodities X and Y. If marginal utility of commodity X is 250 utils, price of the commodity X is Rs.25, and the price of commodity Y is Rs.20, the marginal utility of Y is

- (a) 150 utils
- (b) 200 utils
- (c) 250 utils
- (d) 300 utils
- (e) 500 utils.

(2marks)

[<Answer>](#)

61. The production function for winter garments is estimated as  $TP = 20L^2 - L^3$ . The maximum possible average product of labor is

- (a) 100 units
- (b) 200 units
- (c) 225 units
- (d) 250 units
- (e) 600 units.

(2marks)

[<Answer>](#)

62. Production function for a firm is  $TP_L = 10L - L^2$ . The number of labor units after which marginal product becomes negative is

- (a) 2 units
- (b) 5 units
- (c) 10 units
- (d) 20 units
- (e) 25 units.

(2marks)

63.  $MRTS_{L,K}$  for the production function,  $Q = 50K^{0.5}L^{0.5}$  is [<Answer>](#)
- (a) 0.5 K/L
  - (b) 0.5 L/K
  - (c) K/L
  - (d) L/K
  - (e)  $0.5 + K/L$ .
- (2marks)**

64. Average productivity of labor for a firm is 25 units when labor employed is 20 units. When labor employed is increased to 21 units, average productivity of labor declines to 24 units. At current input level the marginal productivity of labor is [<Answer>](#)
- (a) - 2 units
  - (b) - 4 units
  - (c) 1 unit
  - (d) 2 units
  - (e) 4 units.
- (2marks)**

65. When 10 units of output are produced, the average cost of production (AC) is Rs.30. If average cost of production (AC) increases to Rs.40 with an increase in output by one unit, the marginal cost of producing the 11<sup>th</sup> unit is [<Answer>](#)
- (a) Rs.110
  - (b) Rs.140
  - (c) Rs.150
  - (d) Rs.400
  - (e) Rs.440.
- (2marks)**

66. If total cost function for a firm is  $TC = 48Q - 0.40Q^2 + 0.010Q^3$ , the minimum possible average cost is [<Answer>](#)
- (a) Rs.20
  - (b) Rs.24
  - (c) Rs.40
  - (d) Rs.44
  - (e) Rs.56.
- (2marks)**

67. For a firm, the average cost function is estimated as follows: [<Answer>](#)

$$AC = \frac{500}{Q} + 30 + 5Q$$

What is total variable cost for the firm at an output of 12 units?

- (a) Rs. 100
  - (b) Rs. 131
  - (c) Rs.1,020
  - (d) Rs.1,080
  - (e) Rs.1,580.
- (2marks)**

68. The Long-run Average Cost function of a firm operating under perfect competition is [<Answer>](#)

$$LAC = 20 - 250Q + 10Q^2$$

The optimum level of output of the firm is

- (a) 14.0 units
  - (b) 12.5 units
  - (c) 20.0 units
  - (d) 18.5 units
  - (e) 16.0 units.
- (2marks)**

69. [<Answer>](#)

The average cost function of a firm is given by  $AC = Q^3 - 12Q^2 + 300Q + 780 + \frac{500}{Q}$ . The total fixed cost of the firm is

- (a) Rs. 100
  - (b) Rs. 250
  - (c) Rs. 500
  - (d) Rs.1,000
  - (e) Rs.2,000.
- (1 mark)**

70. The total cost function for a firm is estimated to be  $TC = 100 - 4Q + 8Q^2$ . If the current output is 8 units, the marginal cost is [<Answer>](#)
- (a) Rs. 24
  - (b) Rs. 48
  - (c) Rs. 96
  - (d) Rs. 124
  - (e) Rs. 580.

(2marks)

71. A firm operating in a monopolistic competition in the short-run has the following demand function: [<Answer>](#)
- $$P = 2,000 - Q$$

If the marginal cost of the firm is constant at Rs. 100, the equilibrium output is

- (a) 700 units
- (b) 900 units
- (c) 500 units
- (d) 950 units
- (e) 1,000 units.

(2marks)

72. Demand functions of a monopolist in two effectively segmented markets are: [<Answer>](#)

$$Q_a = 1,000 - 50P_a$$

$$Q_b = 800 - 25P_b$$

Total cost function of the monopolist is  $TC = 500 + 10Q$ .

If the monopolist does **not** practice price discrimination, sales maximizing price is

- (a) Rs. 17
- (b) Rs. 900
- (c) Rs. 12
- (d) Rs. 525
- (e) Rs. 15.

(2marks)

73. For a perfectly competitive market supply and demand functions are as follows: [<Answer>](#)

$$Q_s = 1,000P + 500$$

$$Q_d = 5,000 - 500P$$

If variable cost function of a firm is  $VC = 212Q - 0.5Q^2$ , profit maximizing output for the firm is

- (a) 2,500 units
- (b) 500 units
- (c) 215 units
- (d) 209 units.
- (e) 212 units.

(2marks)

74. In a perfectly competitive market, the demand function for a firm is  $P = 3Q - 25$ . If the average cost is Rs. 5, what is the output at which the firm earns normal profits? [<Answer>](#)

- (a) 3 units
- (b) 8 units
- (c) 10 units
- (d) 11 units
- (e) 33 units.

(2marks)

75. A firm operating under perfect competition has the following cost functions: [<Answer>](#)

$$AVC = 200 - 15Q + 0.75Q^2$$

The price below which the firm shuts down its operations in the short run is

- (a) Rs. 150
- (b) Rs. 125
- (c) Rs. 500
- (d) Rs. 600
- (e) Rs. 750.

(2marks)

76. The total cost function for Astra Ltd. is given as  $TC = 500 + 4Q + 2Q^2$ . The firm is a perfectly competitive firm and is selling the product at Rs.150 per unit. If the output produced and sold by the firm is 10 units, the profit (loss) earned by the firm is

[<Answer>](#)

- (a) Profit of Rs.760
- (b) Loss of Rs.760
- (c) Profit of Rs.100
- (d) Loss of Rs.2,160
- (e) Profit of Rs.2,160.

(2marks)

77. For a firm, total variable cost at various levels of output is given below:

[<Answer>](#)

Quantity (Units)	Total Variable Cost (Rs.)
1	20
2	43
3	75
4	86
5	98
6	128

For the firm, the average variable cost for producing 5<sup>th</sup> unit of output is

- (a) Rs. 19.60
- (b) Rs. 64.40
- (c) Rs. 25.60
- (d) Rs.490.00
- (e) Rs.500.00.

(1 mark)

78. If a producer sells 15 units of a good for Rs.1,290, the average revenue that can be earned by the producer will be

[<Answer>](#)

- (a) Rs.19,350.00
- (b) Rs. 100.00
- (c) Rs. 86.00
- (d) Rs. 10.00
- (e) Re. 0.15.

(1 mark)

**END OF QUESTION PAPER**

## Suggested Answers

### Business Economics – I (MB1B3): January 2009

Answer	Reason	
1. B	A decrease in the commodity's price leads to the movement along the demand curve. This will lead to increase in the quantity demanded.	<a href="#">&lt; TOP</a>
2. B	The demand curve faced by a perfectly competitive firm is horizontal.	<a href="#">&lt; TOP</a>
3. E	In the long-run equilibrium a perfectly competitive firm produces the output at which Price = Short run average cost = Long run average cost = Short run marginal cost.	<a href="#">&lt; TOP</a>
4. D	Time value is the implicit cost in the opportunity cost. So the cost of time is considered here.	<a href="#">&lt; TOP</a>
5. A	The income effect refers to the effect of a change in the price of a product on the Consumer's purchasing power.	<a href="#">&lt; TOP</a>
6. D	The demand for diamond ring is said to be relatively elastic.	<a href="#">&lt; TOP</a>
7. C	An individual firm in perfect competition is a price taker. The level of market price is determined by the market supply and demand. A perfectly competitive firm has control over only on quantity. So sales revenue can be increased by increasing the production only. (a) Is not the answer because a perfectly competitive firm cannot increase its sales revenue by reducing the prices. (b) Is not the answer because a perfectly competitive firm cannot increase its sales revenue by increasing the prices. (c) Is the answer because a perfectly competitive firm can increase its sales revenue by increasing the production. (d) Is not the answer because a perfectly competitive firm cannot increase its sales revenue by increasing the expenditure on advertising. Because all firms produce a homogeneous product. The technical characteristics of the product as well as the services associated with its sale and delivery are same. A buyer can't differentiate among products of differentiate firms. (e) Is not the answer because a perfectly competitive firm cannot increase its sales revenue by increasing the sale force.	<a href="#">&lt; TOP</a>
8. E	To determine profit maximizing level of output, we need the data of total cost as well as total revenue. In this case the information is not sufficient to determine profit maximizing level of output.	<a href="#">&lt; TOP</a>
9. E	The law of diminishing marginal utility explains the derivation of law of demand, paradox of value and the redistribution of income.	<a href="#">&lt; TOP</a>
10. B	No two isoquants intersect or touch each other is the property of isoquants.	<a href="#">&lt; TOP</a>
11. D	In the short-run, firms cannot vary the fixed costs incurred. As the prices are fixed, producers have to maximize the profit where marginal cost = marginal revenue.	<a href="#">&lt; TOP</a>
12. A	Oligopoly is a form of imperfect competition in which a few firms produce either a homogeneous product or products which are close but not perfect substitutes for each other.	<a href="#">&lt; TOP</a>
13. D	The kinked demand curve is used to lessen price rigidity.	<a href="#">&lt; TOP</a>

	<b>Answer</b>	<b>Reason</b>	
14.	A	When total utility is maximum marginal utility is zero.	<a href="#">&lt; TOP</a>
15.	D	The cigarette industry in India closely resembles an oligopoly.	<a href="#">&lt; TOP</a>
16.	C	Marginal productivity theory is developed as an explanation to the following points. Reward of each factor unit is equal to its marginal productivity. In the long-run, under perfect competition, each factors of production will get its remuneration that will be equal to its marginal revenue productivity (MRP) which also equals its average revenue productivity.	<a href="#">&lt; TOP</a>
17.	B	Kind wages are paid in the form of commodities.	<a href="#">&lt; TOP</a>
18.	B	The reward for capital is known as interest.	<a href="#">&lt; TOP</a>
19.	E	These are the following kinds of non-insurable risks given by Frank. H. Knight. Risk of competition. Risk arising out of changes in technology and Market conditions risk.	<a href="#">&lt; TOP</a>
20.	A	There exists perfect competition. This is true according to the Ricardian theory.	<a href="#">&lt; TOP</a>
21.	A	The demand for any good will be more elastic when there are many substitutes of the good, because the consumer may shift to the substitutes if there is slight rise in the price of a good.	<a href="#">&lt; TOP</a>
22.	C	The cost of inventory and future rent charges for a warehouse that have to be incurred as a part of a lease agreement are examples of Sunk cost.	<a href="#">&lt; TOP</a>
23.	B	In Profitability index, the company calculates the ratio of present value of cash inflows and the present value of cash outflows.	<a href="#">&lt; TOP</a>
24.	B	A movement along a single demand curve, due to a change in price, is referred to as a <i>change in quantity demanded</i> , not a change in demand, which refers to a shift in a demand curve.	<a href="#">&lt; TOP</a>
25.	A	Assuming Pepsi is a substitute for Coke and 7-Up, as the price of Pepsi decreases relative to the prices of its substitutes, some consumers will switch over to the now less expensive good. In this case there is a decrease in the number of buyers of Coke and 7-Up, i.e., a change in non-price determinant of demand. Hence the demand for Coke and 7 up will decrease.	<a href="#">&lt; TOP</a>
26.	D	Total fixed cost is equal to the difference between total cost and total variable cost. This is why we can pay little explicit attention to the fixed cost function, since it is already embodied in the total and variable cost functions.	<a href="#">&lt; TOP</a>
27.	E	MC curve intersects both ATC curve and AVC curve at their minimum points. When $MC > ATC$ (AVC), ATC (AVC) must be rising. When $MC < ATC$ (AVC), ATC (AVC) must be falling. Therefore, when $MC = ATC$ (AVC), ATC (AVC) is neither rising nor falling at is at its minimum point.	<a href="#">&lt; TOP</a>
28.	D	Negatively-sloped demand curve is not a feature of "price taking" firm.	<a href="#">&lt; TOP</a>
29.	A	The positively sloped part of the LATC curve is due to diseconomies of scale. These are due mainly to the problems of managing a very large plant, in which many activities are taking place under one roof.	<a href="#">&lt; TOP</a>

	<b>Answer</b>	<b>Reason</b>	
30.	E	The "production function" relates the relationship between the quantities of inputs needed to produce a good and the level of output.	<a href="#">&lt; TOP</a>
31.	D	An economy that relies on both markets and command mechanism is called a mixed economy. Government as well as business firm provides goods and services. In such economies government supplies roads, defense, pensions, and sometimes-even schooling directly to the citizens.	<a href="#">&lt; TOP</a>
32.	C	The difference between perfect competition and monopolistic competition is with regard to type of product which they produce. Producer under perfect competition produces homogeneous goods while the producer operating under the conditions of monopolistic competition produces differentiated products. Large number of sellers is a common characteristic feature of both perfect competition and monopolistic competition. Free entry and exit is also common characteristic feature of perfect and monopolistic competition. Homogeneous product is the characteristic feature of only perfect competition. Differentiated product is the characteristic feature of monopolistic competition. Hence it is not the common feature of perfect and monopolistic competition. Large number of buyers is also common characteristic feature of both perfect competition and monopolistic competition. Large number of sellers and homogeneous product are the features of perfect competition. Hence the correct answer is (c).	<a href="#">&lt; TOP</a>
33.	C	Average fixed cost is calculated as total fixed cost divided by the number of output produced. It always declines as output increases. Even if the firm produces zero output, the average fixed cost will be positive because total fixed cost is constant. (a) Is not the answer because if a firm produces zero output in the short period, its total cost will not be zero because total fixed cost is constant. (b) Is not the answer because its variable cost will not be positive (c) Is the answer because its fixed cost will be positive (d) Is not the answer because average cost will not be zero rather it will be a positive number. (e) Is not the answer because fixed cost is always positive.	<a href="#">&lt; TOP</a>
34.	A	If price ceiling is below the equilibrium price, supply is less than demand. In other words, there is a shortage of good in the market.	<a href="#">&lt; TOP</a>
35.	D	When an industry is in long run equilibrium, it signifies that all firms are in equilibrium and that there is no incentive to enter or leave the industry for any firm. All firms earn only normal profits a. It is not the answer as when some firms make profits and other make losses, it is only a short run situation. b. All firms earning super profits are also a short run situation. c. It is not the answer as when some forms earn super profits, it is a case of short run situation. d. It is the answer as only when all firms earn normal profits, the equilibrium is achieved. e. It is not the answer as this is a situation of short run equilibrium.	<a href="#">&lt; TOP</a>
36.	C	As the price of pens rises, the quantity supplied of pens increases, ceteris paribus. Option (c) is a formal definition of the law of supply.	<a href="#">&lt; TOP</a>
37.	C	A rational firm always employs labor up to the point when the marginal product of labor is zero. If the firm employs beyond that point, it reduces the efficiency of the fixed factors, which results in a fall in the total product instead of rising. (a) Is not the answer because a rational firm will employ labor when the average product of labor is equal to marginal product of labor. (b) Is not the answer because a rational firm will employ labor when the marginal product of labor is maximum. (c) Is the answer because no rational firm would employ labor when the marginal product of labor is zero. (d) Is not the answer because when the labor is zero, the total product of labor will be zero. (e) Is not the answer because when the labor is zero, the average product of labor will be zero.	<a href="#">&lt; TOP</a>

	<b>Answer</b>	<b>Reason</b>	
38.	C	According to the law of equi-marginal utility, given the income of the consumer and the market prices of goods, the marginal utility of the last rupee spent on the goods is always the same.	<a href="#">&lt; TOP</a>
39.	C	Total product reaches maximum position when marginal product is zero. When AP = MP, AP will be at maximum. When AC = MC, AC will be at minimum. Hence the correct answer is (c).	<a href="#">&lt; TOP</a>
40.	C	Excess capacity' is the essential characteristics of the firms in monopolistic competition.	<a href="#">&lt; TOP</a>
41.	A	For luxuries, the income elasticity of demand is greater than one.	<a href="#">&lt; TOP</a>
42.	C	$\text{Average productivity} = \frac{\text{Total productivity}}{\text{No.of units of the input used}}$	<a href="#">&lt; TOP</a>
43.	E	For a monopolist, there is no unique relationship between price and quantity supplied. Therefore, the supply curve of a monopolist is irrelevant. (a) Is not the answer because the supply curve of a perfectly competitive firm is the portion of its marginal-cost curve that lies above the average variable costs. (b) Is not the answer because the supply curve of a monopolist is not the portion of its marginal-cost curve that lies above the average cost curve. (c) Is not the answer because the supply curve of a monopolist is not vertical. (d) Is not the answer because the supply curve of a monopolist is not horizontal. (e) Is the answer because a monopolist has no supply curve.	<a href="#">&lt; TOP</a>
44.	D	Implicit costs are the costs that are inherent for the firm so when the wages are hiked, it is not affected.	<a href="#">&lt; TOP</a>
45.	C	The slope of the isoquant represents the Marginal Rate of Technical Substitution (MRTS) between labor (L) and capital (K). MRTS is equal to the ratio of the marginal productivities of two factors. a. The slope of the isocost curve represents ratio of wages (w) and interest (r). b. The slope of the indifference curve signifies marginal rate of substitution of goods (MRS). c. The slope of the isoquant curve signifies the marginal rate of technical substitution (MRTS) between labor and capital. d. The slope of the budget line represents ratio of price of good X and good Y. e. The slope of the average cost curve only shows the rate of change in average cost curve with respect change in output.	<a href="#">&lt; TOP</a>
46.	A	In the long-run, the firm will continue in business so long as it covers Average costs.	<a href="#">&lt; TOP</a>
47.	E	Contractual rent for building is an example of fixed cost.	<a href="#">&lt; TOP</a>



<b>Answer</b>	<b>Reason</b>	
48. E	a. Long run average cost ( $LAC = LTC/Q$ ) is U-shaped because of economies of scale initially and diseconomies of scale at later stages of production. b. Long run marginal cost ( $LMC = \partial LTC/\partial Q$ ) is U-shaped as cost of producing additional units reduces at the beginning because of economies of scale, but raises later due to diseconomies of scale. c & d. Short run average cost ( $SAC = STC/Q$ ) and AVC ( $= TVC/Q$ ) falls and raises due to operation of 'law of diminishing marginal productivity'. e. Average fixed cost ( $AFC = TFC/Q$ ) falls at a decreasing rate with the increase of output because of constant total fixed cost.	<a href="#">&lt; TOP</a>
49. B	Break Even Point in perfect competition is at when $AR = AC$ .	<a href="#">&lt; TOP</a>
50. D	Single buyer is not a characteristic of monopoly.	<a href="#">&lt; TOP</a>
51. C	The theoretical highest price that can prevail in the market is when the quantity demanded is zero. $5,50,000 - 55 P = 0$ $55,50,000 = 55 P$ $P = \frac{5,50,000}{55} = \text{Rs. } 10,000.$	<a href="#">&lt; TOP</a>
52. B	At equilibrium, $Q_s = Q_d$ $1,600 - 200P = 1,000P - 2000$ $3600 = 1200P$ $P = 3.$ $Q_s = 1,000(3) - 2000 = 3000 - 2000 = 1000$ Elasticity of supply = $\Delta Q/\Delta P \times P/Q = 1000 \times 3/1000 = 3.$	<a href="#">&lt; TOP</a>
53. A	$Q_d = 12,000 - 4P$ $Q_s = 4,000 + 6P$ Equilibrium price is determined where, $Q_s = Q_d$ $4,000 + 6P = 12,000 - 4P$ $6P + 4P = 12,000 - 4,000$ $10P = 8,000$ $P = \text{Rs. } 800$ If the govt. imposes a sales tax of Rs.200 per units $Q_s = 4,000 + 6(P-200)$ $= 4,000 + 6P - 1,200$ $= 2,800 + 6P$ $\therefore$ Equilibrium price is determined, when $Q_s = Q_d$ $\therefore 2800 + 6P = 12,000 - 4P$ $6P + 4P = 12,000 - 2,800$ $10P = 9,200$ $P = \text{Rs. } 920$ $\therefore$ The new price will be Rs.920.	<a href="#">&lt; TOP</a>
54. E	$Q = 20,000 - 2500(4) + 5(4000) + 100(10)$ $= 20,000 - 10,000 + 20,000 + 1000 = 31,000$ Income elasticity of demand: $dQ/dY \times Y/Q = 5 \times 4000/31000 = 0.6452$	<a href="#">&lt; TOP</a>

	<b>Answer</b>	<b>Reason</b>	
55.	D	At equilibrium $Q_d = Q_s$ or $19,000 - 300P = 17,000 + 100P$ or $P = 5$ The equilibrium quantity of the good = $19,000 - 300P = 19,000 - 300(5) = 19,000 - 1,500 = 17,500$ units.	<a href="#">&lt; TOP</a>
56.	D	The consumer will consume till $MU_Y = P_Y$ $MU_Y = 0.6Y$ $0.6Y = 30$ $Y = 50$ units.	<a href="#">&lt; TOP</a>
57.	C	When the consumer is in equilibrium, $\left  MRS_{xy} \right  = \left  \frac{P_x}{P_y} \right $ $\frac{150}{\dots} = \frac{P_x}{P_y}$ $\therefore 3 = \frac{P_x}{P_y}$ $P_y = \text{Rs.}50$	<a href="#">&lt; TOP</a>
58.	C	Here the price elasticity of the good implies a perfectly elastic situation. In the case of perfect price elasticity, if a firm increases the price of the good, the quantity demanded of the good may fall to zero. Hence (c) is the answer.	<a href="#">&lt; TOP</a>
59.	D	$MRS_{xy} = \Delta Y / \Delta X = -4/2 = -2.00$ The absolute value $MRS_{xy}$ is 2.	<a href="#">&lt; TOP</a>
60.	B	At equilibrium $\frac{MU_x}{P_x} = \frac{MU_y}{P_y}$ $\frac{250}{25} = \frac{MU_y}{20}$ $\therefore MU_y = \frac{250}{25} \times 20 = 200 \text{ utils}$	<a href="#">&lt; TOP</a>
61.	A	$AP = TP/L = 20L - L^2$ Maximum AP: $\partial AP / \partial L = 0$ $20 - 2L = 0$ Or, $L = 10$ At $L = 10$ , $AP = 20(10) - 10 \times 10 = 100$ units.	<a href="#">&lt; TOP</a>
62.	B	$TP_L = 10L - L^2$ $MP_L = 10 - 2L$ Marginal returns become negative, once $MP_L$ equals zero. Thus, $10 - 2L = 0$ Or, $L = 5$ units.	<a href="#">&lt; TOP</a>

Answer	Reason	
63. C	$\text{MRTS}_{L,K} = \frac{MP_L}{MP_K}$ $Q = 50K^{0.5} L^{0.5}$ $MP_L = \frac{\partial Q}{\partial L} = 25L^{0.5-1} K^{0.5} = 25(L)^{-0.5} K^{0.5} = K^{0.5} \frac{25}{L^{0.5}}$ $MP_K = \frac{\partial Q}{\partial K} = 25K^{0.5-1} L^{0.5} = 25(K)^{-0.5} L^{0.5} = L^{0.5} \frac{25}{K^{0.5}}$ $\therefore \text{MRTS}_{L,K} = \frac{K^{0.5} \frac{25}{L^{0.5}}}{L^{0.5} \frac{25}{K^{0.5}}} = \frac{K}{L}$	<a href="#">&lt;TOP</a>
64. E	<p>TP (when labor = 20 units) = 20 × 25 = 500                      TP (When labor = 21 units) = 21 × 24 = 504                      Thus, MP = (504 – 500)/(21– 20) = 4 units.</p>	<a href="#">&lt;TOP</a>
65. B	<p>TC (when 10 units of output) = 10 × 30 = 300                      TC (when 11 units of output) = 11 × 40 = 440                      MC = (440 – 300) = Rs.140.</p>	<a href="#">&lt;TOP</a>
66. D	<p>AC = TC/Q = 48 – 0.40Q + 0.010Q<sup>2</sup>                      AC is minimum when <math>\partial AC / \partial Q = 0</math>                      = – 0.40 + 0.020Q = 0                      0.020Q = 0.40                      Q = 20                      At Q = 20, AC = 48 – 0.40(20) + 0.010(20)<sup>2</sup> = 48 – 8 + 4 = Rs.44</p>	<a href="#">&lt;TOP</a>
67. D	<p>AC = <math>\frac{500}{Q} + 30 + 5Q</math>                      TC = 500 + 30Q + 5Q<sup>2</sup>                      TVC = 30Q + 5Q<sup>2</sup>                      At output 12 units, TVC = 30(12) + 5(12)<sup>2</sup> = 360 + 720 = Rs.1,080</p>	<a href="#">&lt;TOP</a>
68. B	<p>The firm operating in a perfectly competitive industry earns only normal profits in the long run because of free entry and exit of the firms. The firm operating at its minimum average cost can only prevail in the market. Thus, the optimum condition in the long run is the minimum point of LAC.</p> <p>LAC = 20 – 250Q + 10Q<sup>2</sup>  <math>\frac{d(LAC)}{dQ} = -250 + 20Q = 0</math>                      or 20Q = 250                      or Q = 12.5 units.</p>	<a href="#">&lt;TOP</a>
69. C	<p>AC = Q<sup>3</sup> – 12Q<sup>2</sup> + 300Q + 780 + <math>\frac{500}{Q}</math>                      TC = AC × Q = Q<sup>4</sup> – 12Q<sup>3</sup> + 300Q<sup>2</sup> + 780Q + 500                      Thus, FC = 500 and VC = Q<sup>4</sup> – 12Q<sup>3</sup> + 300Q<sup>2</sup> + 780Q</p>	<a href="#">&lt;TOP</a>

- |       | <b>Answer</b> | <b>Reason</b>  |                          |   |                 |       |   |               |     |   |               |  |
|-------|---------------|--|--------------------------|---|-----------------|-------|---|---------------|-----|---|---------------|--|
| 70.   | D             | $TC = 100 - 4Q + 8Q^2$<br>Here, $MC = -4 + 16Q$ .<br>If $Q = 8$ $MC = -4 + 128 = \text{Rs.}124$ .  | <a href="#">&lt; TOP</a> |   |                 |       |   |               |     |   |               |  |
| 71.   | D             | The equilibrium output in the short run is determined where<br>$MR = MC$<br>$TR = 2,000Q - Q^2$<br>$MR = 2,000 - 2Q$<br>$2,000 - 2Q = 100$<br>$2Q = 1,900$<br>$Q = 950$ units  | <a href="#">&lt; TOP</a> |   |                 |       |   |               |     |   |               |  |
| 72.   | C             | $Q_a = 1,000 - 50P_a$ , $Q_b = 800 - 25P_b$ , $TC = 500 + 10Q$ . If the monopolists does not practice price discrimination, then   | <a href="#">&lt; TOP</a> |   |                 |       |   |               |     |   |               |  |
|       |               | <table border="1" style="margin-left: auto; margin-right: auto; border-collapse: collapse;"> <tbody> <tr> <td style="padding: 2px;"><math>Q_a</math></td> <td style="padding: 2px;">=</td> <td style="padding: 2px;"><math>1,000 - 50P_a</math></td> </tr> <tr> <td style="padding: 2px;"><math>Q_b</math></td> <td style="padding: 2px;">=</td> <td style="padding: 2px;"><math>800 - 25P_b</math></td> </tr> <tr> <td style="padding: 2px;"><math>Q</math></td> <td style="padding: 2px;">=</td> <td style="padding: 2px;"><math>1,800 - 75P</math></td> </tr> </tbody> </table> | $Q_a$                    | = | $1,000 - 50P_a$ | $Q_b$ | = | $800 - 25P_b$ | $Q$ | = | $1,800 - 75P$ |  |
| $Q_a$ | =             | $1,000 - 50P_a$  |                          |   |                 |       |   |               |     |   |               |  |
| $Q_b$ | =             | $800 - 25P_b$  |                          |   |                 |       |   |               |     |   |               |  |
| $Q$   | =             | $1,800 - 75P$  |                          |   |                 |       |   |               |     |   |               |  |
|       |               | or, $75P = 1,800 - Q$<br><br>$\text{or, } P = 24 - \frac{Q}{75}$<br><br>$TR = 24Q - \frac{Q^2}{75}$<br><br>$MR = 24 - \frac{2Q}{75}$<br>Sales maximization is possible, when $MR = 0$<br><br>$\therefore 24 - \frac{2Q}{75} = 0$<br><br>$\frac{2Q}{75} = 24$<br>$Q = 900$<br><br>$\therefore P = 24 - \frac{Q}{75}$<br><br>$P = 24 - \frac{900}{75} = 24 - 12 = \text{Rs.}12$  |                          |   |                 |       |   |               |     |   |               |  |
| 73.   | D             | $Q_s = 1,000P + 500$<br>$Q_d = 5,000 - 500p$<br>$\therefore$ The equilibrium price can be determined by equating<br>$Q_s = Q_d$<br>$\therefore 1,000p + 500 = 5,000 - 500p$<br>or, $1,500P = 4500$<br>or, $P = 3 = MR$ .<br>Variable cost of the firm is given as $212Q - 0.5Q^2$<br>$\therefore MC = 212 - Q$<br>$\therefore$ Profit maximizing output for the firm is determined where, $MR = MC$<br>or, $3 = 212 - Q$<br>or, $Q = 212 - 3 = 209$ units.   | <a href="#">&lt; TOP</a> |   |                 |       |   |               |     |   |               |  |

	<b>Answer</b>	<b>Reason</b>	
74.	C	A firm earns normal profits, when $AR = AC$ $P = 3Q - 25$ . $AC = 5$ $3Q - 25 = 5$ $3Q = 30$ $Q = 30/3 = 10$ units.	<a href="#">&lt;TOP</a>
75.	B	The minimum price below which the firm is shut down its operation is the minimum average variable cost. $AVC = 200 - 15Q + 0.75Q^2$ $d(AVC)/dQ = -15 + 1.5Q = 0$ $Q = 15/1.5 = 10$ At $Q = 10$ , $AVC = 200 - 15(10) + 0.75(10)^2$ $= 200 - 150 + 75 = \text{Rs.}125$	<a href="#">&lt;TOP</a>
76.	A	The total revenue = Price $\times$ quantity. Then it becomes $150Q$ . Profits = total revenue - total costs At the output level of 10 units, Profits = $150Q - 500 - 4Q - 2Q^2 = 146Q - 2Q^2 - 500$ Profit at the output of 10 units = $146(10) - 2(10)^2 - 500$ $= 1460 - 200 - 500 = \text{Rs.} 760$ i.e. profit of Rs. 760.	<a href="#">&lt;TOP</a>
77.	A	The average variable cost for producing 5 units of output is equal to $98/5 = \text{Rs.} 19.60$	<a href="#">&lt;TOP</a>
78.	C	Average revenue = total revenue/no. of output sold = $1290/15 = \text{Rs.}86$ .	<a href="#">&lt;TOP</a>

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