Section:

Roll No:

Name:

DHIRUBHAI AMBANI INSTITUTE OF INFORMATION AND COMMUNICATION TECHNOLOGY, GANDHINAGAR

IN SEMESTER EXAMINATION – 2

Marks: 30   **Duration:** 60 minutes   **Course:** Principles of Economics   **Course Code:** HM116

Instructions:

- Tick MCQs or fill in the blanks as required in the question paper itself.

- There is no negative marking.

- Choose the **Most Appropriate** response for MCQ.

- Most important- All The Best!

1) The demand curve for nuts is downward sloping. This slope is because consumers maximize their utility and an increase in the price of nuts leads to

   a. No change in quantity demanded

   b. Consumers budget line shifting outward with no change in their slope

   c. **A decrease in the marginal utility per rupee from nuts**

   d. Consumers budget lines rotating outwards with their slopes changing

   e. An increase in the marginal utility per rupee from nuts

2) Harsh's marginal utility from strawberries is 200 and his marginal utility from ice cream is 100. He spends all his budget on these goods with the prices of strawberries and ice-cream being at Rs 5 per unit. Harsh should

   a. **Buy less ice-cream and more strawberries**

   b. Buy less ice-cream and less strawberries

   c. Buy more ice-cream and less strawberries

   d. Buy more ice-cream and more strawberries

   e. Change nothing as he is maximizing his utility now

3) Firms operate with excess capacity under monopolistic competition because

   a. They are not able to lower their average cost of production

   b. **They have to reduce the price of good**

   c. They already produce at the quantity that minimizes average total cost

   d. They are charging a markup over marginal cost

   e. None of the above

4) Which of the following is an example of an implicit cost?

   a. **The economic depreciation of capital equipment the business owns**
   b. The cost of fuel and materials
   c. Wages paid to workers
   d. Rent on a building
   e. The cost of fertilizer for a farmer

5) The U shaped average total cost curve is

   a. A result of constant marginal returns
   b. **The result of average fixed cost falling and decreasing marginal returns as output increases**
   c. Unrealistic because average total cost always increases as output increases
   d. A result of firms wanting to find that output level where cost is at its minimum
   e. A result of increasing marginal returns

6) What does the long run average cost curve show?

   a. **The lowest average cost to produce each output level in the long run**
   b. The interaction between average fixed cost and marginal cost
   c. The distinction between long run fixed and long run variable costs
   d. The lowest average marginal cost of producing each output level at any time
   e. All the above

7) Which one of the following factors will cause the demand curve of labour to shift to the right?

   a. Demand for the product by labour declines
   b. Prices of substitute inputs fall
   c. **Productivity of labour increases**
   d. Productivity of labour decreases
   e. None of the above

8) If markets for some addictive drugs are found to have a higher price elasticity of demand than was often thought, and if many addicts have difficulty holding down steady, well-paying jobs, we might speculate that the most likely reason for the surprising elasticity estimates is that

   a. the substitution effect is smaller than expected
   b. **the income effect is larger than expected**
   c. addictive drugs are inferior goods
   d. Additive drugs are luxury goods
   e. the income effect is smaller than expected

9) The total cost (TC) of producing computer software diskettes (Q) is given as: $TC = 200 + 5Q$. What is the fixed cost, marginal cost?

a. 200, 5Q

c. **200, 5**

e. none of the above

b. 40, 5

d. 40, 5 + (200/Q)

10) Consider a consumer who wants to consume only two commodities and has an income of Rs 100. Assume the price of good 1 is Rs 10 per unit and the price of good 2 is Rs 20 per unit. Now, inflation causes the price of good 1 to increase to Rs 20 per unit, while the price of good 2 increases to Rs 25 per unit. On the other hand, the consumer also gets a raise of Rs 100. Is she better off or worse off?

    a. **Better off**

    b. Worse off

    c. Cannot be determined

    d. Neither better nor worse off

11) Deepika spends all her income on two goods: x and y. She considers them to be perfect substitutes. Which of the following is correct? (where "I" is the income level.)

    a. If $MRS_{x,y} < P_x / P_y$, then the optimal allocation of goods is X = I / P_x and Y= 0

    b. If $MRS_{x,y} > P_x / P_y$, then the optimal allocation of goods is X = 0 and Y = I / P_y

    c. **If $MRS_{x,y} = P_x / P_y$, then there are only two optimal allocations of goods: X = I / P_x and Y= 0; or X = 0 and Y = I / P_y**

    d. If $MRS_{x,y} > P_x / P_y$, then the optimal allocation of goods is X = I / P_x and Y= 0

12) Suppose the market for coffee in Gandhinagar is characterized by demand Q_d = 1000 - 10P. Individual coffee shops are identical with total costs TC = $5 + 5q^2$ and marginal cost MC = 10q. Suppose the market for coffee is in a long-run equilibrium. What is the market price, firm output, number of firms, and market output?

    a. 8, 2, 800, 800

    b. **10, 1, 900, 900**

    c. 5, 1, 500, 500

    d. 4, 2, 200, 200

13) A shift in the demand curve for a good can be caused by:

    a. A change in the price of the good

    b. A change in consumer income

    c. A change in the price of a complementary good

    d. **Both b and c**

    e. All three a, b, and c

14) Use the following statements to answer this question:
Statement I. The firm's decision to produce zero output when the price is less than the average variable cost of production is known as the shutdown rule.
Statement II. The firm's supply decision is to generate zero output for all prices below the minimum AVC.

    a. **I and II are true**

    b. I is true and II is false

    c. II is true and I is false

    d. I and II are false

15) What is one difference between the Cournot and Stackelberg models?

  a. **In Cournot, both firms make output decisions simultaneously, and in Stackelberg, one firm sets its output level first**

  b. In Stackelberg, both firms make output decisions simultaneously, and in Cournot, one firm sets its output level first

  c. In Cournot, a firm has the opportunity to react to its rival

  d. Profits are zero in Cournot and positive in Stackelberg

16) Which of the following combinations of goods are complements and which are substitutes? I) tennis balls and a tennis racket II) a plane trip and a train trip to the same destination.

  a. I are complements, II are complements

  b. I are substitutes, II are complements

  c. I are substitutes, II are substitutes

  d. **I are complements, II are substitutes**

  e. None of the above

17) Suppose the supply curve for a good is completely inelastic. If the government imposed a price ceiling below the market-clearing level, what would be the true:

  a. Producer surplus increase

  b. **No Deadweight loss**

  c. Consumer Surplus decrease

  d. Nothing can be said about Producer surplus

  e. Nothing can be said about Consumer surplus

18) Suppose you are in charge of a toll bridge that costs essentially nothing to operate. The demand for bridge crossings Q is given by P = 15 - $\frac{1}{2}$Q. How many people would cross the bridge if there were no toll? What is the loss of consumer surplus associated with a bridge toll of 5 Rs?

  a. 30, 225

  b. 20, 225

  c. **30, 125**

  d. 20, 100

  e. 30, 100

19) In the above problem the toll-bridge operator is considering an increase in the toll to Rs. 7. At this higher price, how many people would cross the bridge? Would the toll-bridge revenue increase, decrease or remains same?

  a. 16, decrease

  b. **16, increase**

  c. 20, remains same

  d. 20, increase

  e. 20, decrease

20) You run a small business and would like to predict what will happen to the quantity demanded for your product if you raise your price. While you do not know the exact demand curve for your product, you do know that in the first year you charged $45 and sold 1200 units and that in the second year you charged $30 and sold 1800 units. If you plan to raise your price by 10%, what would be a reasonable estimate of what will happen to quantity demanded in percentage terms?

   a. decreases more than 10%

   b. decreases less than 10%

   c. **decrease by 10%**

   d. increase less than 10%

   e. increase by 10%

21) In case of price increase, how the income effect and substitution effect takes place for Salt and Food, respectively:

   a. Small income effect and small substitution effect, Small income effect and large substitution effect

   b. Large income effect and large substitution effect, Large income effect and large substitution effect

   c. Small income effect and large substitution effect, Large income effect and virtually no substitution effect

   d. **Small income effect and small substitution effect, Large income effect and virtually no substitution effect**

   e. Large income effect and substitution effect, Small income effect and large substitution effect

22) Categories the following in Yes or No on the basis of whether they are monotonic transformation or not: I) $u = 2v - 13$, II) $u = v^2$ III) $u = v^2$ for $v > 0$ IV) $u = v^2$ for $v < 0$. The correct order of such categorization is

   a. Yes, Yes, Yes, Yes

   b. Yes, No, No, Yes

   c. Yes, Yes, No, Yes

   d. Yes, No, Yes, Yes

   e. **Yes, No, Yes, No**

23) For the following Table, for what value of quantity transition the change in profit is 0.

Quantity (Q)	Total Revenue (TR)	Total Cost (TC)
0	0	3
1	6	5
2	12	8
3	18	12
4	24	17
5	30	23
6	36	30
7	42	38

   a. 2 to 3   b. 3 to 4   c. **4 to 5**   d. 5 to 6   e. None the above

24) Choose the response as follows:

A. Both assertion and reason are true, and reason is the correct explanation of assertion.

B. Both assertion and reason are true, but reason is not the correct explanation of assertion.

C. Assertion is true, but reason is false.

D. Both assertion and reason are false.

Assertion : The crude oil reserves are going down for the entire world, and the countries need to find substitute fuel for crude oil.

Reason : A country that is dependent on imports for crude oil will demand more crude oil in the future.

a. **A**

b. B

c. C

d. D

25) Marginal rate of substitution (MRS) for Cobb Douglas Utility $= x^\alpha y^\beta$, is:

a. $\frac{\alpha}{\beta} \frac{x}{y}$

b. $\frac{\beta}{\alpha} \frac{x}{y}$

c. $\frac{\alpha}{\beta} \frac{y}{x}$

d. $\frac{\beta}{\alpha} \frac{y}{x}$

Ans: C (alpha/beta . y/x)

26) Suppose that a monopolist has a marginal cost of \$4, and a fixed cost of \$48. Suppose also that the demand curve is given by $Q = 12 - (P/2)$. The marginal revenue of the monopolist as a function of Q is ....

Ans: **24-4Q**

27) A firm faces the following average revenue (demand) curve: $P = 120 - 0.2Q$, where Q is weekly production and P is price, measured in paisa per unit. The firm's cost function is given by $C = 60Q + 25{,}000$. Assume that the firm maximizes profits. What is the level of production and total profit per week? ....

Ans: 1500, 200Rs (or 20000 paisa)

28) A monopolist can produce at a constant average and marginal cost of Rs 5. It faces a market demand curve given by $Q = 53 - P$. The profit maximizing price is .... and the profits are ....

Ans: 29, 576

29) (2 Marks): In the previous question, assume the entry of a second firm. The market price under Cournot equillibrium is .... and the total industry profit is ....

Ans: 21, 512