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KVS ZONAL INSTITUTE OF EDUCATION AND TRAINING, MUMBAI

Study Material (Class XI)

Prepared in the online workshop

On

"Pedagogical Approaches & Assessment in Economics"

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Submitted by
Participant Teachers from
Ahmadabad, Jaipur, Mumbai,
Patna and Raipur Region

INDEX

COMPETENCY BASED QUESTIONS

- **INTRODUCTORY MICROECONOMICS**

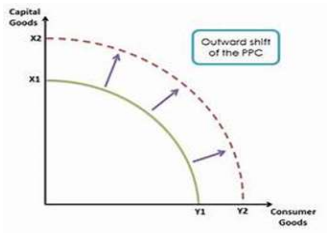
(Prepared by the Participants of Mumbai Region)

- **STATISTICS FOR ECONOMICS**

(Prepared by the Participants of Patna Region)

Subject: MICRO ECONOMICS

1. The shift in PPC is caused due to:



A) Increase in resources for production of both the goods.
B) Increase in resources for production of consumer goods only.
C) Increase in resources for production of capital goods only.
D) None of these.

2. Read the following statements carefully & choose alternative from the following.

Statement 1: Scarcity is universal as every individual, organization and economy faces scarcity of resources.

Statement 2: There would have been no economic problem, if resources were not scarce.

Alternatives:

A) Both the statements are true.
B) Both the statement are false.
C) Statement 1 is true and statement 2 is false.
D) Statement 1 is false and statement 2 is true.

3. Which of the following statement is / are true.

A) Total utility of water is very high
B) Marginal Utility of water is high
C) Both (A) and (B) are correct.
D) Both (A) and (B) are wrong.

4. Most well-known examples of imposition of price floor is/are _____ (Choose the correct alternative)

(A) Maximum Support Price
(B) Minimum Support Price
(C) Minimum wage legislation
(D) Both (B) and (C)

5. Find the missing values from the following:

6. Identify and match the sequence of

Output (Units)	Average Variable Cost (AVC) (Rs)	Total Cost (Rs)	Marginal cost (Rs)
1	-----	60	20
2	18	-----	16

	Column I		Column II
A	Normal goods	(i)	To increase the consumption of one good we have to decrease the consumption of other good.
B	Inferior goods	(ii)	P1X1 + P1X2 = M
C	Budget line is straight line	(iii)	Demand decreases when income of the household increases assuming price constant.
D	Budget line slopes downwards	(iv)	Demand increases when income of the household increases assuming price constant.

alternatives given in Column I with their respective functions in Column II

(a) A-(iii), B-(i), C-(ii), D-(iv)
(b) A-(iv), B-(ii), C-(iii), D-(i)
(c) A-(iii), B-(i), C-(iv), D-(ii)
(d) A-(iv), B-(iii), C-(ii), D-(i)

7. Read the following statements and choose the correct alternatives given below:

Assertion (A): Indifference curve is convex to the origin.
Reason (R): Due rise in Marginal rate of substitution (MRS)
Alternatives:

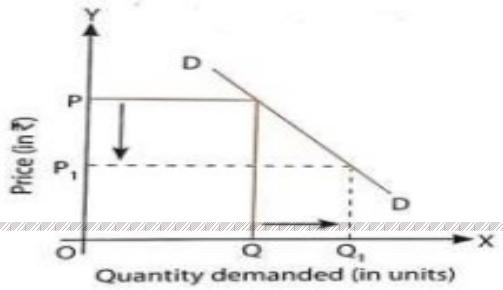
(a) Both assertion (A) and reason (R) are true, and reason (R) is the correct explanation of assertion (A)
(b) Both assertion (A) and reason(R) are true, but reason(R) is not the correct explanation of assertion (A).
(c) Assertion (A) is true but reason (R) is false
(d) Both assertion (A) and reason (R) are false.

8. Read the following statements and choose the correct alternatives given below:

Statement 1: Substitute goods are those goods if the rise in price of Good X causes rise in demand for Good Y.
Statement 2: The demand for a Complimentary good rise if the price of other complimentary good rises.
Alternatives:

(a) Both the statements are true.
(b) Both the statements are false
(c) Statement 1 is true and statement 2 is false.
(d) Statement 2 is true and statement 1 is false.

9. Read the diagram given below and find that it belongs to which type of elasticity of demand? (Choose the correct alternative)



(a) Elastic demand (Ed › 1)
(b) Inelastic demand (Ed < 1)
(c) Perfectly elastic demand (Ed = ∞)
(d) Unitary elastic demand (Ed = 1)

10. Choose one of the correct alternatives from the given Assertion & Reason:

Assertion (A): A commodity that can be put to several uses is price inelastic.
Reason(R): As price falls, number of buyers increase in the market.

Alternatives:

a) Both Assertion (A) & Reason(R) are true and R is the correct explanation of A.
b) Both Assertion (A) & Reason(R) are true and R is not the correct explanation of A.
c) Assertion (A) is true but Reason(R) is false.
d) Assertion (A) is false but Reason(R) is true.

11. In a perfect competition market a firm is a price taker and market is a price maker……..curve is horizontal straight line parallel to x-axis.

(a) Marginal Cost
(b) Total Cost
(c) Marginal Revenue
(d) Total Revenue

12. Read the following statements carefully:

Statement 1-When TR increases at increasing rate then MR also increases.
Statement II-When TR increases at a diminishing rate then MR decline.
In the light of the given statements, choose the correct alternative from the following:

a) Statement 1 is true and statement 2 is false
b) Statement 1 is false and statement 2 is true
c) Both statements 1 and 2 are true
d) Both statements 1 and 2 are false

13. Read the following statements carefully:

Statement 1- There are large numbers of buyers and few sellers in the perfect competition market.
Statement 2 - In perfect competition market products are heterogeneous.
In the light of the given statements, choose the correct alternative from the following:
a) Statement 1 is true and statement 2 is false
b) Statement 1 is false and statement 2 is true
c) Both statements 1 and 2 are true.
d) Both statements 1 and 2 are false.

14. Read the following statements carefully:

Statement 1- Tea and coffee are substitute goods.
Statement 2 – Car and petrol are substitute goods.
In the light of the given statements, choose the correct alternative from the following:
a) Statement 1 is true and statement 2 is false.
b) Statement 1 is false and statement 2 is true.
c) Both statements 1 and 2 are true.
d) Both statements 1 and 2 are false.

15. Read the following statements Assertion (A) and Reason (R). Choose one of the correct alternatives given below:

Assertion (A) -Demand for salt is inelastic.
Reason (R) - In case of elastic demand, percentage change in price of the commodity causes relatively less than percentage change in quantity demanded.
Alternatives:

a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A).
b) Both Assertion (A) and Reason (R) are true and Reason (R) is not the correct explanation of Assertion (A).
c) Assertion (A) is true but Reason (R) is false.
d) Assertion (A) is false but Reason (R) is true.

16. When price of a good falls from Rs 15 to Rs 12 per unit means a fall of 20% in prices, its demand rises by 25%.Price elasticity of demand will be

(a) -15/12
(b) -12/15
(c) -25/20
(d) -20/25

17. Choose the correct option:-

Assertion (A): When Quantity of commodity changes there is a movement along the same demand curve.
Reason (R): Income of consumer changes then demand curve changes.
Alternatives:
(a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A)
(b) Both Assertion (A) and Reason (R) are true and Reason (R) is not the correct explanation of Assertion (A)
(c) Assertion (A) is true but Reason (R) is false.
(d) Assertion (A) is false but Reason (R) is true

18. Choose the correct alternative:

Assertion (A): Elasticity of supply is a quantitative concept.
Reason (R): It is the percentage change in supply due to percentage change in price.
Alternatives:
(a) Both (A) and (R) are true and (R) is the correct explanation of (A)
(b) Both (A) and (R) are true and (R) is not the correct explanation of (A)
(c) (A) is true but (R) is false
(d) (A) is false but (R) is true

19. Choose the correct alternative:

Assertion (A): Excess demand arises when existing price is less than equilibrium price.
Reason(R): When the existing price is less consumers are ready to buy more.
Alternatives:
(A)Both Assertion (A) and Reason(R) are true and Reason(R) is the correct explanation of Assertion (A).
(B) Both Assertion (A) and Reason(R) are true and Reason(R) is not the correct explanation of Assertion (A).
(C) Assertion (A) is true but Reason(R) is false.
(D) Assertion (A) is true but Reason(R) is True

20. The total output generated by the first four units of variable input is 100 units, 180units, 280 units and 480 units. The marginal product of the third unit of input is……...

a) 80 units b) 100 units c) 120 units d) 180 units

21. Choose the correct option:-

Assertion (A): Variable Factors can be changed in the short run.
Reason (R): Variable factors are not required in case of zero output.
Alternatives:-
(a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A)

(b) Both Assertion (A) and Reason (R) are true and Reason (R) is not the correct explanation of Assertion (A)
(c) Assertion (A) is true but Reason (R) is false.
(d) Assertion (A) is false but Reason (R) is true.

22. When demand for a good falls due to rise in its own price, what is the change in demand called?

a) Expansion of demand
b) Contraction of demand
c) Increase in demand
d) Decrease in demand

23. Supply Curve of two firms are, A= p - 10 and B = p - 15 the market supply curve will be

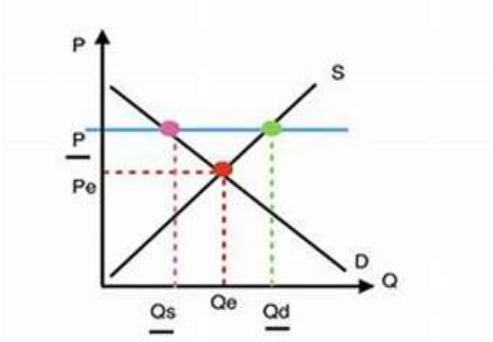
a) M = p - 20
b) M = p - 25
c) M = 2p - 25
d) M = 2p + 25

24. In case of Perfect competition, price is determined at

a) Equilibrium price of the firm
b) Equilibrium price of the industry
c) Equally between MR and MC
d) None of these

25. A lot of people died and many factories are destroyed because of a severe earthquake in a country. How will it affect the country's PPC.

26. In the given diagram, Pe is the market determined price and P is the price fixed by the Government. Identify if the diagram represents, price ceiling or Price flooring. Discuss the likely behavior of the market in the given condition



27. A consumer buys 50 units of commodity at a price of ₹10 per unit. Find the new quantity of commodity using percentage method if price increase to ₹ 12 per unit. The elasticity of demand is equal to - 1.5.

28. 'Contraction of supply occurs due to change in factors other than price of the given commodity.' State whether the statement is True or False giving reason.

29. Complete the following table:

Output (units)	Average Fixed Cost (Rs)	Average Variable Cost (Rs)	Marginal Cost (Rs)	Total Cost (Rs)
1	120	40	----	-------
2	60	56	----	232
3	----	54	-----	-------
4	30	------	54	----

30. A consumer consumes only two goods X and Y. At A consumption level of these goods, he finds that the ratio of marginal utility of price in case of X is higher than in case of Y. Explain the reaction of consumer.

31. Giving reasons, state whether the following statements are true or false:

(i) Average product will increase only when marginal product increases.
(ii) Under diminishing returns to factor, total product continues to increases till marginal product reaches Zero.

32. Complete the table & identify the three phases of Law of variable proportion:

Unit of Variable Factor	Total Product	Marginal Product
1	10	
2	22	
3	30	
4	35	
5	30	

33. "A producer takes a building on rent for carrying out business. He looks after the business himself." Identify the implicit and explicit costs from this information.

34. State whether the following statement are true or false. Give reason for your answer:
(i) When marginal revenue is Zero, average revenue will also be zero.
(ii) Marginal revenue is the price at which the last unit of a commodity is sold.
(iii) When total revenue is maximum, marginal revenue will also be maximum.
(iv) When marginal revenue falls to Zero, average revenue should be rising.

35. "Two indifference curves cannot intersect each other". Justify the statement using diagram.
36. "Problem of resource allocation would not arise, if resources do not have alternate use". Defend or refute the statement with valid reason.
37. Find producer's equilibrium by marginal revenue and Marginal cost approach for the given data and give reason to your answer.

Output	1	2	3	4	5
Price	8	8	8	8	8
Total cost	10	18	25	33	42

38. Give reason state true or false
a) During diminishing returns MP and TP of variable factor tend to decrease.
b) When MR is constant and not equal to zero, TR is constant.
c) AC and AVC curves come closer to each other with increase in production.
39. Observe the table carefully

Price of ice cream	Market Demand	Market Supply

10	300	100
20	200	200
30	100	300

Based on the above information answer the following questions

a) What is the equilibrium price of ice-cream?

b) _____ means market demand is less than market supply at prevailing market price (Excess demand / Excess Supply).

c) There will be competition among _____ when market demand is more than market supply. (Seller/ buyers).

40. A consumer consumes only two goods, each priced at Rs 1 per unit. If the consumer chooses the combination of two goods with Marginal rate of substitution equal to 2, is the consumer in equilibrium? Explain what will be a rational consumer do in this situation?

41. What will be the impact of the following on the supply curve of rice?

a) Increase in the prices of fertilizers and seeds.

b) Increase in the prices of potato as it can also be grown on land where rice is grown.

42. Suppose that a firm's total fixed cost is Rs 100 and the marginal cost schedule of the firm is as following:

Output (in units)	Marginal cost (in Rs)
1	10
2	20
3	30
4	40
5	50
6	60
7	70

Based on the above information answer the following questions:

a) Is the MC curve U-shaped?

b) Derive the AVC schedule?

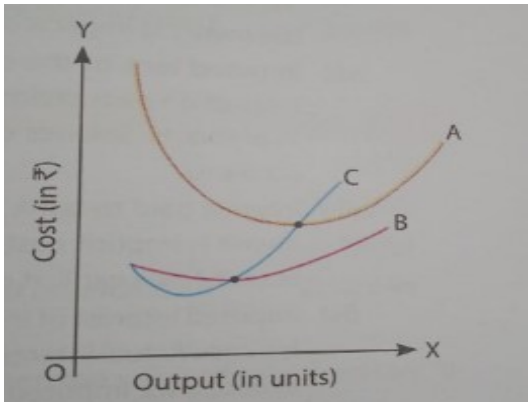
c) Will the AVC curve be U shaped? Discuss why or why not?

43. Observe the given table carefully and answer the questions given below:

a) Identify three short run cost curves.

b) Why all three curves are U shaped?

c) Why does the distance between curve A and curve B fall with rise in output?



44. Identify implicit cost and explicit cost in each of the following cases.

a) An individual is both the owner and manager of the shop on rent.

b) A producer borrows money and opens a shop. The shop premises are owned by him.

45. Complete the table:

Units sold	1	2	3	4	5	6	7
MR (in Rs)	14	10	7	5	0	-3	-5
TR (in Rs)							
AR (IN Rs)							

46. A 5% fall in the price of x leads to 10% rise in the demand of x. A 20% rise in the price of y leads to 6% fall in the demand of y.

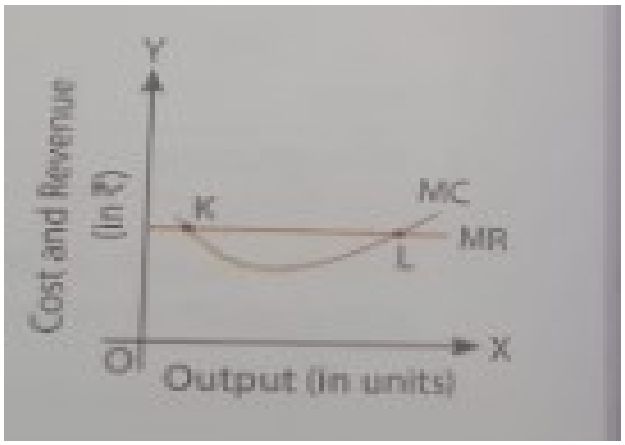
a) Calculate price elasticity of demand for x and y.

b) Out of x and y, which commodity is more elastic?

47. Calculate explicit cost from the following

Particulars	Rs in Thousand
Investment in fixed assets	2000
Borrowing at 12% interest rate	1500
Wages paid during the year	120
Annual depreciation	100
Estimated Annual value of management services of the owner	240

48. Producer's equilibrium is attained at point K or L. Explain with valid reason.



49. "Agricultural goods do not obey the law of supply". Defend or refute the given statement with valid reasons.

50. "Selling costs not incurred in perfect competition". Defend or refute the given statement with valid reasons.

Subject: STATISTICS FOR ECONOMICS

Q1. In the following questions, a statement of Assertion (A) is followed by astatement of Reasons (R). Mark the correct choice as:

Assertion (A)-In singular sense statistics is a collection of numericaldata.
Reason (R) - In singular sense statistics deals with collection presentation analysis and interpretation of quantitative information. Choose the correct option out of the following:

(a) Both the Assertion A and Reason R are true and Reason R is the correctexplanation of Assertion A.
(b) Both Assertion A and Reason R are true but Reason is not the correct explanation of Assertion A
(c)Assertion A is true but Reason R is false.
(d) Assertion A is false and Reason R is true

Q2. In the following questions, a statement of Assertion (A) is followed by astatement of Reason (R). Mark the correct choice as:

Assertion (A)-Direct personal investigation is not suitable when thearea of investigation is large.
Reason (R) - In direct personal investigation more time and money isspent.
Choose the correct option out of the following:

(a) Both the Assertion A and Reason R are true and Reason R is the correctexplanation of Assertion A.
(b) Both Assertion A and Reason R are true but Reason is not the correctexplanation of Assertion A
(c) Assertion A is true but Reason R is false.
(d) Assertion A is false and Reason R is true

Q3. In the following questions, a statement of Assertion (A) is followed by astatement of Reason (R). Mark the correct choice as:

Assertion (A) - The heading given in a column in a table is called caption.
Reason (R) - Body of the table contains numerical information.
Choose the correct option out of the following:

(a) Both the Assertion A and Reason R are true and Reason R is the correct explanation of Assertion A.
(b) Both Assertion A and Reason R are true but Reason is not the correct explanation of Assertion A
(c) Assertion A is true but Reason R is false.
(d) Assertion A is false and Reason R is true

Q4. In the following questions, a statement of Assertion (A) is followed by astatement of Reason (R). Mark the correct choice as:

Assertion (A) - Multiple Bar diagram is one dimensional diagram.
Reason (R) - In Bar diagram only width of the bar matters only.
Choose the correct option out of the following:

(a) Both the Assertion A and Reason R are true and Reason R is the correctexplanation of Assertion A.
(b) Both Assertion A and Reason R are true but Reason is not the correct explanation of Assertion A
(c) Assertion A is true but Reason R is false.

(d) Assertion A is false and Reason R is true

Q5. In the following questions, a statement of Assertion (A) is followed by astatement of Reason (R). Mark the correct choice as:

Assertion (A) - A distribution can either be uni-modal, Bi-model ormulti model.

Reason (R) - If each observation occurs the same number of times in aseries then there is no mode in that distribution. Choose the correct option out of the following:

(a) Both the Assertion A and Reason R are true and Reason R is the correct explanation of Assertion A.

(b) Both Assertion A and Reason R are true but Reason is not the correctexplanation of Assertion A

(c) Assertion A is true but Reason R is false.

(d) Assertion A is false and Reason R is true

Q6. Read the following statements carefully and choose the correct alternative:

Statement 1: In case of inclusive series, the upper limit of a class equals the lower limit of the next class

Statement 2: Mid-point or mid values of a class is the difference between the lower limit and the upper limit.

Alternatives:

(a) Both statements are true

(b) Both statements are false

(c) Statement 1 is true but Statement 2 is false

(d) Statement 2 is true but Statement 1 is false.

Q7. Read the following statements carefully and choose the correct alternative:

Statement 1: In more than ogive cumulated frequencies are plotted against theupper limit of class intervals.

Statement 2: In less than ogive, we begin from the lower limit of the first classinterval

Alternatives:

(a) Both statements are true

(b) Both statements are false

(c) Statement 1 is true but Statement 2 is false.

(d) Statement 2 is true but Statement 1 is false.

Q8. Read the following statements carefully and choose the correct alternative:

Statement1: Median is unduly affected by extreme values.

Statement 2: Arithmetic mean is not affected by extreme values.

Alternatives:

(a) Both statements are true

(b) Both statements are false

(c) Statement 1 is true but Statement 2 is false.

(d) Statement 2 is true but Statement 1 is false.

Q9. Read the following statements carefully and choose the correct alternative:

Statement 1: The range of simple correlation coefficient is 0 to infinity.

Statement 2: The range of rank correlation coefficient is +1 to -1

Alternatives:

(a) Both statements are true

(b) Both statements are false

(c) Statement 1 is true but Statement 2 is false

(d) Statement 2 is true but Statement 1 is false.

Q10. Read the following statements carefully and choose the correctalternative:

Statement 1: Consumer Index Number (CPI) or cost of living index numbers are helpful in wage negotiation, formulation of income policy and price policy.

Statement 2: The Wholesale Price Index (WPI) is used to eliminate the effectof changes in prices on aggregates, such as national income.

Alternatives:

(a) Both statements are true

(b) Both statements are false

(c) Statement 1 is true but Statement 2 is false

(d) Statement 2 is true but Statement 1 is false.

Q.11. In the following questions, a statement of Assertion (A) is followed by a statement of Reason (R). Mark the correct choice as:

Assertion (A): The value of correlation coefficient is in the range of -1 to +1.

Reason (R): Correlation between two variables doesn't help in predicting thevalue of a variable even if we know the value of another variable.

In light of the above statements, choose the correct answer from the optionsgiven below

Alternatives:

(a) Both A and R are true and R is the correct explanation of A

(b) Both A and R are true but R is NOT the correct explanation of A

(c) A is true but R is false

(d) A is false but R is true

Q.12 In the following questions, a statement of Assertion (A) is followed by astatement of Reason (R). Mark the correct choice as:

Assertion (A): When correlation coefficient (r) is between +0.75 and +1, high degree of positive correlation and when it is between –0.75 to –1 high degree of negative correlation.

Reason (R): The value of correlation lies between + 1 and – 1

Alternatives:

(a) Both Assertion (A) and Reason (R) are true, and Reason (R) is the correct explanation of the Assertion (A).

(b) Both Assertion (A) and Reason (R) are true, but Reason (R) is not the correct explanation of the Assertion (A).

(c) Assertion (A) is true, but Reason (R) is false.

(d) Assertion (A) is false, but Reason (R) is true.

Q.13 There are two statements given below, marked as Assertion (A) and Reason(R). Read the statements and choose the correct option.

Assertion (A): The purpose of the sample is to get one or more estimate of thepopulation parameters.

Reason (R): A good sample (representative sample) is generally smaller thanthe population and is capable of providing reasonably accurate information about the population at a much lower cost and shorter time.

Alternatives:

(a) Both Assertion (A) and Reason (R) is true but Reason (R) is the correct

explanation of Assertion (A)

(b) Both Assertion (A) and Reason (R) is true but Reason (R) is not the correct explanation of Assertion (A).

(c) Assertion (A) is true but Reason (R) is false.

(d) Assertion (A) is false but Reason (R) is true.

Q.14 There are two statements given below, marked as Assertion (A) and Reason(R). Read the statements and choose the correct option.

Assertion (A): Sampling error refers to the difference between the sampleestimate and the Corresponding population parameter (actual value of the characteristic of thepopulation for example -average income, etc.

Reason (R): sampling errors are more serious than Non-sampling errors because a Non-sampling error can be minimized by taking a larger sample. Itis difficult to minimize non-sampling error, even by taking a large sample.

Alternatives:

(a) Both Assertion (A) and Reason (R) is true but Reason (R) is the correctexplanation of Assertion (A)

(b) Both Assertion (A) and Reason (R) is true but Reason (R) is not the correct explanation of Assertion (A).

(c) Assertion (A) is true but Reason (R) is false.

(d) Assertion (A) is false but Reason (R) is true.

Q.15 There are two statements given below, marked as Assertion (A) and Reason(R). Read the statements and choose the correct option.

Assertion (A): Sampling bias arises from recording of incorrect responses.

Reason (R): Non-response occurs if an interviewer is unable to contact a person listed in the sample or a person from the sample refuses to respond.

Alternatives:

(a) Both Assertion (A) and Reason (R) is true but Reason (R) is the correctexplanation of Assertion (A)

(b) Both Assertion (A) and Reason (R) is true but Reason (R) is not the correctexplanation of Assertion (A).

(c) Assertion (A) is true but Reason (R) is false.

(d) Assertion (A) is false but Reason (R) is true.

Q.16 Calculation of averages weight of a class is inferential statistics, while estimating weight of the entire class based on average weight of a sample is descriptive statistics.

Q.17 "Minakshi has been working as a dedicated employee in the firm for the past 15 years." Is this statistics?

Q.18. Homogeneity of data is important for statistical analysis.

Q.19 What is economics?

Q.20 Why is a pilot survey important?

Q.21 Statistics prove that there is oil shortage in India. What values do yousuggest to people to meet the growing demand for oil?

Q.22 What is classification?

Q.23 In the following questions, a statement of Assertion (A) is followed by astatement of Reason (R). Mark the correct choice as:

Assertion (A): Without statistics, the presentation of economic factswould have been vague and indefinite.

Reason (R): Statistics helps in summerising lengthy and elaborate complex information.

Alternatives:

(a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correctexplanation of Assertion (A)

(b) Both Assertion (A) and Reason (R) are true and Reason (R) is not the correct explanation of Assertion (A)

(c) Assertion (A) is true but Reason (R) is false.

(d) Assertion (A) is false but Reason (R) is true.

Q.24 In the following questions, a statement of Assertion (A) is followed by a statement of Reason (R). Mark the correct choice as:

Assertion (A): In the case of exclusive class intervals, upper limit isnot included

Reason (R): In the case of exclusive class intervals, we have to decide inadvance which class limit is to be excluded.

Alternatives:

(a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A)

(b) Both Assertion (A) and Reason (R) are true and Reason (R) is not thecorrect explanation of Assertion (A)

(c) Assertion (A) is true but Reason (R) is false.

(d) Assertion (A) is false but Reason (R) is true.

Q.25 In the following questions, a statement of Assertion (A) is followed by astatement of Reason (R). Mark the correct choice as:

Assertion (A): Arithmetic mean is a stable measure of centraltendency.

Reason (R): Changes in the sample of a series have minimum effect on thearithmetic average.

Alternatives:

(a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correctexplanation of Assertion (A).

(b) Both Assertion (A) and Reason (R) are true and Reason (R) is not thecorrect explanation of Assertion (A).

(c)Assertion (A) is true but Reason (R) is false.

(d) Assertion (A) is false but Reason (R) is true.

Q.26 Read the following statements carefully and choose the correct alternative:

Statement 1: Aggregative Expenditure method of constructing consumer price index number is similar to the Paasche's method.

Statement 2: The wholesale price index number is often used to forecastdemand and supply situation in the economy.

Alternatives:

(a) Both the statements are true.

(b) Both the statements are false.

(c) Statement 1 is true and Statement 2 is false.

(d) Statement 2 is true and Statement 1 is false.

Q.27 **Read the following statements carefully and choose the correct alternative:**

Statement 1: Laspeyre's method uses base year quantities as weightwhile constructing index numbers.

Statement 2: Paasche's method uses current year quantities as weightwhile constructing index numbers.

Alternatives:

(a) Both the statements are true

(b) Both the statements are false.

(c) Statement 1 is true and Statement 2 is false.

(d) Statement 2 is true and Statement 1 is false.

Q.28 In the following questions, a statement of Assertion (A) is followed by astatement of Reason (R). Mark the correct choice as:

Assertion (A): Tabular presentation helps to compare between rows andcolumns and data can be represented using tabulation.

Reason(R): Tabulation of data is a must for diagrammatic representation.

Which of the following is correct?

Alternatives

(a) Both A and R are true and R is the correct explanation of A.

(b) Both A and R are true but R is not the correct explanation of A.

(c) A is true and R is false.

(d) A is false and R is true.

Q.29 In the following questions, a statement of Assertion (A) is followed by a statement of Reason (R). Mark the correct choice as:

Assertion (A): Foot note is the last part of the table.

Reason (R) Foote note are given to clarify anything which is not clear fromheading, title stubs and captions, etc.

Alternatives:

(a) Both A and R are true and R is the correct

(b) Both A and R are true but R is not the correct explanation of A.

(c) A is true and R is false.

(d) A is false and R is true.

Q.30 In the following questions, a statement of Assertion (A) is followed by astatement of Reason (R). Mark the correct choice as:

Assertion (A): Tabulation helps in making comparison easier.

Reason (R): Data presented in tabular form, having rows and columns help in comparing various data.

Alternatives:

(a) Both A and R are true and R is the correct

(b) Both A and R are true but R is not the correct explanation of A.

(c) A is true and R is false.

(d) A is false and R is true.

Q.31 In the following questions, a statement of Assertion (A) is followed by astatement of Reason (R). Mark the correct choice as:

Assertion (A): Tabulation makes the data brief. Therefore, it can be easily presented in the form of graphs.

Reason(R): Tabulation presents the numerical figures in an attractive form.

Alternatives:

(a) Both A and R are true and R is the correct
(b) Both A and R are true but R is not the correct explanation of A.
(c) A is true and R is false.
(d) A is false and R is true.

Q.32 In the following questions, a statement of Assertion (A) is followed by a statement of Reason (R). Mark the correct choice as:

Assertion (A): Figures should be approximated before tabulation.

Reason (R): This would reduce unnecessary details.

Alternatives

(a) Both A and R are true and R is the correct
(b) Both A and R are true but R is not the correct explanation of A.
(c) A is true and R is false.
(d) A is false and R is true.

Q.33 Define pie diagram?

ANSWERS

INTRODUCTORY MICROECONOMICS-COMPETENCY BASED QUESTIONS

ANSWERS	
1	(A)
2	(A)
3	(B)
4	AVC = 20 and TC = 76
5	(b)
6	(c)
7	(c)
8	(a)
9	(d)
10	(c)
11	(c)
12	(a)
13	(a)
14	(b)
15	(c)
16	(c)
17	(a)
18	(b)

19	(b)
20	(b)
21	(d)
22	(c)
23	(c)
24	The country's PPC will shift to the left as there is reduction of the resources.
25	This is the case of Price Floor. Minimum support price or Price Floor is a law or regulation which holds the market price above the equilibrium price. The diagram shows graphically the effect of minimum price imposition. One of the primary effects of price floor is that it creates, an EXCESS SUPPLY in the market. This excess occurs because suppliers are unable to sell their goods or services at the higher price.
26	As per percentage method, Ed = % change in Quantity demanded/ %change in price Here % change in price = (12-10)/10 X 100 =2/10 X100 = 20% Let % change in quantity demanded be X Ed = X/20% -1.5 = X/20% ; X = -1.5 x 20% = - 30 % New quantity = 50 – 30% of 50 = 50-15 = 35 units
27	False, as the contraction of supply takes place due to fall in the price of the commodity and not due to change in factors other than price of the given commodity
28	

Output (Units)	AFC (Rs.)	TFC (Rs.)	AVC (Rs.)	TVC (Rs.)	MC (Rs.)	TC (Rs.)
1	120	120	40	40	**40**	**160**
2	60	120	56	112	**72**	232
3	**40**	120	54	162	**50**	**282**
4	30	120	**54**	216	54	**336**

29	MUx /Px > MUy/ Py In this case, the consumer is getting more marginal utility per rupee in case of good X as compared to Y. Therefore, he will buy more of X and less of Y. This will lead to fall in MUX and rise in MUY. The consumer will continue to buy more units of X till MUx/ Px = MUy/ Py
30	(i) Average product will increase only when marginal product increases. False. When MP > AP, AP rises. MP curve lies above AP curve. MP achieves its maximum point and starts falling still AP rises. When both AP and MP curves are rising, MP curve rises at a faster rate. The reason for rise in both AP and MP values is under utilisation of the fixed factor. (ii) Under diminishing returns to factor, total product continues to increases till marginal product reaches Zero. True. It is the most important phase out of the three phases. Under this, production ranges from the point where MP curve is maximum to the point where the MP curve is zero. MP curve is positive but declining. TP curve increases at a decreasing rate and reaches a maximum. The reasons are: 1. Optimal use of fixed factor, and 2. Lack of perfect substitutes between factors.
31	

Unit of Variable Factor	Total Product	Marginal Product	Phases of Law of Variable Proportions
1	10	10	Phase I

2	22	12		
3	30	8	Phase II	
4	35	5		
5	30	-4	Phase III	

32 Looking after his own business- Implicit Cost
Payment of rent for the building- Explicit Cost

33 (i) When marginal revenue is Zero, average revenue will also be zero.
False, because AR & MR shares the following relationship:
(a) When AR is constant, AR = MR
(b) When AR falls, MR also falls but MR falls at twice the rate at which AR falls
(ii) Marginal revenue is the price at which the last unit of a commodity is sold.
True, by definition, MR is the addition to TR of the firm when it sells nth unit of the product instead of n – 1 units.
(iii) When total revenue is maximum, marginal revenue will also be maximum.
False, because total revenue is maximum when marginal revenue is zero.
(iv) When marginal revenue fall to Zero, average revenue should be rising.
False, because AR & MR shares the following relationship:
(a) When AR is constant, AR = MR
(b) When AR falls, MR also falls but MR falls at twice the rate at which AR falls

35 . "Two indifference curves cannot intersect each other". Two indifference curves intersecting each other will lead to conflicting results. As points A and B lie on the same indifference curve IC1, utilities derived from combination A and combination B will give the same level of satisfaction. Similarly, as points A and C lie on the same indifference curve IC2, utility derived from combination A and from combination C will give the same level of satisfaction.

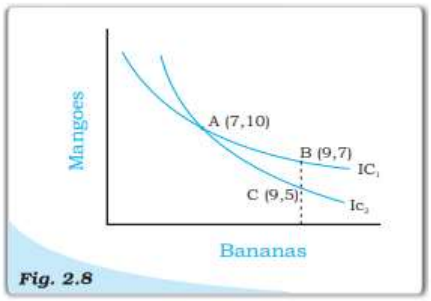


Fig. 2.8
Two indifference curves never intersect each other

From this, it follows that utility from point B and from point C will also be the same. But this is clearly an absurd result, as on point B, the consumer gets a greater number of mangoes with the same quantity of bananas. So consumer is better off at point B than at point C. Thus, it is clear that intersecting indifference curves will lead to conflicting results. Thus, two indifference curves cannot intersect each other.

36 The statement "Problem of resource allocation would not arise, if resources do not have alternative uses" is flawed and needs to be refuted. Here are some reasons why:
Firstly, it is impossible for resources to not have alternative uses. Even the simplest of resources, such as water, can be used for a variety of purposes
Secondly, even if resources were single-use, the problem of resource allocation would still arise. This is because there would be a limited amount of the resource available, and it would need to be allocated to different users or consumers.
Thirdly, the problem of resource allocation arises not only because of the scarcity of resources, but also because of the competing demands for those resources. Even if the land could be used for only one purpose, the problem of allocation would still arise because of the different perspectives and interests of the stakeholders involved.

	In conclusion, it is clear that the problem of resource allocation would still exist even if resources had only one use. This is because of the limited availability of resources, competing demands, and the need to allocate resources fairly and efficiently..
37	<table><tr><td>Output</td><td>Price</td><td>Total Cost</td><td>TR=(PxQ)</td><td>MR</td><td>MC</td><td></td></tr><tr><td>1</td><td>8</td><td>10</td><td>8</td><td>8</td><td>10</td><td>MR<MC</td></tr><tr><td>2</td><td>8</td><td>18</td><td>16</td><td>8</td><td>8</td><td>MR=MC</td></tr><tr><td>3</td><td>8</td><td>25</td><td>24</td><td>8</td><td>7</td><td>MR>MC</td></tr><tr><td>4</td><td>8</td><td>33</td><td>32</td><td>8</td><td>8</td><td>MR=MC</td></tr><tr><td>5</td><td>8</td><td>42</td><td>40</td><td>8</td><td>9</td><td>MC>MR</td></tr></table> Thus, according to the MR – MC approach, a producer is in equilibrium at 4 units of output where MR = MC. But the second condition is getting satisfied at 5 units of output, which is MC > MR after the MC = MR level of output. So, it is the profit maximising level of output.
38	a) During diminishing returns MP and TP of variable factor tend to decrease. The given statement is False. This is because in a situation of diminishing returns to a factor marginal product tends to fall. Falling marginal product implies that total product should be increasing, though at a diminishing rate. It simply implies diminishing slope of TP (total product) curve, NOT diminishing TP. When MR is constant and not equal to zero, TR is constant. The statement that total revenue (TR) is constant when marginal revenue (MR) is constant and not equal to zero is false. When MR is constant but not equal to zero, TR will increase at a constant rate if MR is positive, and decrease if MR is negative. c) AC and AVC curves come closer to each other with increase in production. The given statement is correct. The gap between AC and AVC keeps on decreasing because the difference between them is AFC, which falls with increase in output. However, AFC can never be zero. Therefore, AC and AVC can never meet each other.
39	a) Equilibrium Price = Rs. 20 as at this price quantity demanded is equal to quantity supplied. b) Excess Supply c) buyers
40	Given, PX=Rs. 1; PY=Rs. 1 MRS (marginal rate of substitution) = 2 The consumer attains equilibrium when MRS =PXPY In the given question, the consumer is not in the equilibrium because here, MRS>PXPY Using the given values, 2>11 The consumer would react to this situation by consuming more of good X in place of good Y. This will lead to a decline in MRS and the consumer would reduce consumption of Y until the MRS equals the price ratio, i.e. 1.
41	a) Increase in the prices of fertilizers and seeds. Supply curve will shift to left as fertilizers and seeds are inputs and rise in the price of inputs causes increase in the cost of production thus leading to the decrease in the supply. b) Increase in the prices of potato as it can also be grown on land where rice is

grown.

Supply curve will shift to left. Due to increase in the price of potatoes the profit margin will increase and producer will seek to produce more of potatoes thus reducing the supply of rice.

42

a) Is the MC curve U-shaped?

Ans. Yes, The MC curve will be U-shaped curve.

b) Derive the AVC schedule?

Ans.

Output	MC	TVC	AVC
1	10	10	10
2	20	30	15
3	30	60	20
4	40	100	25
5	50	150	30
6	60	210	35
7	70	280	40

c)Will the AVC curve be U shaped? Discuss why or why not?

Ans. Yes The AVC curve is a U-shaped curve because of the application of the Law of Variable Returns to Factor. As the quantity produced of a commodity increases, the average variable costs diminish, reach a minimum and then start to rise.

43

a) Identify three short run cost curves.

Ans. Curve A is Average Cost Curve, Curve B is Average Variable Cost Curve, Curve C is Marginal Cost Curve.

b) Why all three curves are U shaped?

Ans. All the curves (AC, AVC and MC) are U shaped curves. The shape of these curves signifies that at early units of production, these costs are high, later reduce when production increases and again rise with more production of subsequent units.

c) Why does the distance between curve A and curve B fall with rise in output?

Ans. The vertical distance between AC and AVC (costs such as wages or cost of supplies) curves continues to fall with increase in output because the gap between them is AFC, which continues to decline with rise in output.

44

a) An individual is both the owner and manager of the shop on rent.

Ans. Implicit cost is the cost which is hidden and is not shown as a separate cost. on the other hand, explicit cost is the cost which is shown as a separate cost and expenditure is incurred on it. In this case, the salary of the person who himself is the owner as well as manager is an imputed cost because working on his own shop involves an opportunity cost in the form of salary which he could have earned by working on some other's shop. However, rent by him is an explicit cost as it is shown and paid to someone else in the form of money.

b) A producer borrows money and opens a shop. The shop premises are owned by him.

Ans. In the given example the producer borrows money and starts his business therefore the expenses incurred interest on money borrowed is explicit cost. The producer looks after the business himself therefore the imputed cost of the efforts of the businessman is implicit cost.

45

Units sold	1	2	3	4	5	6	7

	MR (in Rs)	14	10	7	5	0	-3	-5
	TR (in Rs)	14	24	31	36	36	33	28
	AR (IN Rs)	14	12	10.3	9	7.2	5.5	4

46

Ed = %change in quantity demanded/ %change in Price.
Ed for commodity x
Edx = %change in QDx/ %change in Price(x); Edx = 10%/5% = -2
Edy = %change in QDy/ %change in Price(y); Edy = 6%/20% = -0.3
Price Elasticity of x is more elastic as compared to commodity y.
Negative sign of Ed indicates the inverse relationship between price and quantity demanded.

47

(a) Explicit cost = Interest on borrowings = 180 (Rs. 1000)
+ Wages paid + 120
+ Depreciation + 100

Total = 400

(b) Implicit cost = Imputed interest
Own investment of Rs. 500
Thousand @ 12 % 60
+ Rental value 100
+ Imputed value of
Owner's services 240

Total = 400

48

Producer's equilibrium is attained at point L.
In the figure, P = MC at two points K and L. At point K, MC curve is falling. At point L, MC curve is rising. The economic justification for choosing point L is that for output less than, OX1, MR > MC and for output more than OX1, MR < MC. This condition does not hold at point K.

49

"Agricultural goods do not obey the law of supply"
True, law of supply states that other things remaining constant, the quantity supplied of a commodity varies directly with the price. In other words, higher the price higher is the supply of the quantity supplied. This is not possible in case of agriculture goods because even if the price goes up the supply of agricultural good cannot be increased as agriculture is a natural process depending upon time.

50

Yes, it is true that selling costs are not incurred in the perfect competition Reason: Homogeneous products are sold at a uniform price under perfect competition and monopoly product has no close substitutes in the market, thus, selling costs are not incurred by firms operating in perfect competition and monopoly market.

STATISTICS FOR ECONOMICS - COMPETENCY BASED QUESTIONS

ANSWERS	
34	D
35	A
36	B
37	C
38	B
39	A
40	C
41	D
42	D
43	A
44	b) Both A and R are true but R is NOT the correct explanation ofA
45	b) Both Assertion (A) and Reason (R) are true, but Reason (R) is not the correctexplanation of the Assertion (A).
46	b) Both Assertion (A) and Reason (R) is true but Reason (R) is not thecorrect explanation of Assertion (A).
47	c) Assertion (A) is true but Reason (R) is false.
48	d) Assertion (A) is false but Reason (R) is true.
49	Descriptive statistics refers to the methods used for collection, presentation and analysis of data (such as calculation of averages), while inferential statistics refers to methods by which conclusions are drawn for a population based on a given sample.
50	Not all numerical data is statistics, only those numerical data that can beexpressed as aggregate or average is statistics.
51	Classification of data is the process of arranging data into homogeneous (similar) groups according to their common characteristics. Raw data cannot be easily understood, and it is not fit for further analysis and interpretation. The arrangement of data helps users in comparison and analysis
52	Economics is the study of scarcity and its implications for the use of resources, production of goods and services, growth of production and welfare over time, and a great variety of other complex issues of vital concern to society.
53	A pilot survey is essential because • It helps in assessing the quality and suitability of question • It evaluates the performance of enumerators • It helps in designing a set of rules for the investigator • It estimates the time and cost involved in the final survey
54	There should be optimum use of oil, as it is scare. We should make people aware of shortage of oil and encourage them to use public transportsystem .car pools etc.
55	Process of arranging data into groups as per common characteristics
56	(e) Both Assertion (A) and Reason (R) are true and Reason (R) is the correctexplanation of Assertion (A)
57	(c) Assertion (A) is true but Reason (R) is false.

58	(a) Both Assertion (A) and Reason (R) are true and Reason (R) is thecorrect explanation of Assertion (A)
59	(d) Statement 2 is true and Statement is false
60	(a) Both the statements are true
61	(e) Both A and R are true but R is not the correct explanation of A.
62	A. Both A and R are true and R is the correct
63	(e) Both A and R are true and R is the correct
64	(e) Both A and R are true but R is not the correct explanation of A.
65	(e) Both A and R are true and R is the correct
66	Circle is drawn and it partitioned in two sections to show proportions of various component.

CASE STUDY QUESTIONS

- **INTRODUCTORY MICROECONOMICS**
  (Prepared by the Participants of Mumbai Region)
- **STATISTICS FOR ECONOMICS**
  (Prepared by the Participants of Patna Region)

Subject: MICRO ECONOMICS

Case Study 1

Read the following Case Study carefully and answer the questions on the basis of the same:

If our income rises, we generally tend to buy more of the goods. More income would mean more pens, more shirts, more shoes, more cars and so on. But there are exceptions. If initially, you are buying coarse grain, how would you take your increase in income now? Perhaps, as a first step, you would discard the consumption of inferiors. Surely, this happens in the deserts of Rajasthan where the rich minority eats wheat while the poor majority eats Bajra as their staple food.

1. The law of demand does not apply to _____ goods. (Normal/ Giffen)
2. Inferior goods are those whose income effect is_____. (Negative/ Positive)
3. A fall in income of the consumer (in case of normal goods) will cause
   1. upward movement on the demand curve.
   2. downward movement on the demand curve
   3. rightward shift of the demand curve

4. leftward shift of the demand curve

4. As a result of rise in consumer's income, the demand curve for coarse-grain (inferior good)
    1. becomes a horizontal straight line
    2. becomes a vertical straight line
    3. shifts to the right
    4. shifts to the left

Case Study 2

Read the following Case Study carefully and answer the questions on the basis of the same:

Census of India is a decennial publication of the Government of India. It is published by Registrar General and Census Commissioner, Under Ministry of Home Affairs, Government of India. It is a very comprehensive source of secondary data. It relates to population size and various aspects of demographic changes in India. Under the Ministry of Home Affairs, Government of India. It may be of historical interest that though the population census of India is a major administrative function; the Census Organisation was set up on an ad-hoc basis for each Census till the 1951 Census. The Census Act was enacted in 1948 to provide for the scheme of conducting population census with duties and responsibilities of census officers. The Government of India decided in May 1949 to initiate steps for developing systematic collection of statistics on the size of the population, its growth, etc., and established an organisation in the Ministry of Home Affairs under Registrar General and ex-Officio Census Commissioner, India.

1. Data originally collected in the process of investigation are known as _____ (Primary data/ Secondary data).

2. The problem of double conclusion arises in _____ (indirect oral investigation/ direct personal interview).
3. Post independence, the first census of India was conducted in _____ (1949/1951)
4. Census of India is carried out once in _____ years. (10/ 5)

Case Study 3

Read the following Case Study carefully and answer the questions on the basis of the same:
Unpublished data or literature is known as grey literature in research. (The term 'grey literature' also includes data published in a non-commercial form, such as a conference proceeding.) These data are collected by the government organisations and others, generally for their self-use or office record. Unpublished data is useful mainly in secondary research, such as literature reviews and systematic reviews. It provides pointers to new research and perhaps also research paths to avoid. Preprints are a growing form of unpublished data these days and have proved very useful in guiding research in

critical areas such as COVID-19. Published sources of secondary data are government publications, semi-government publications, publications of research institutions, international publications etc.

1. _____ data are collected from published or unpublished reports. (Primary/ Secondary)
2. In the case of a _____, answers are to be written by the enumerators specifically hired for the purpose. (Questionnaire/ Schedule)
3. _____ publish data relating to education, health, births and deaths. (Government publications/ Semi- Government Publications)
4. 76th round of NSSO was on _____ (Persons with disabilities and drinking water/ density of population)

Case Study 4

Read the given case carefully and answer the following questions on the basis of the same.

The word demand, desire and want are often used interchangeably to express what an individual needs and what he would like to acquire. However, in economics, the term demand has a specific meaning and content. Demand is different from mere desire in economics. The demand is with reference to a particular price as well as to a given period of time. Demand of a commodity can be affected from number of factors but in economics, we study the relation between two variables assuming other factors as constant. Demand function is a relationship between the quantity demanded of a commodity and the variables that determine it.

(a) Which of the following is not an element of effective desire?
(i) Ability to purchase
(ii) Wish to purchase
(iii) Availability of good
(iv) None of these
(b) Which of the following factors is not a factor that affects the demand?
(i) Price of a good
(ii) Price of factor input
(iii) Price of related goods
(iv) None of these
(c) Which of the following leads to rightward shift in demand curve?
(i) Decrease in price of given good.
(ii) Increase in price of substitute goods.
(iii) Increase in price of complementary goods.
(iv) All of these.

Case Study 5

Read the given case carefully and answer the following questions:

Utility means wants satisfying power of a commodity. Even a harmful commodity has utilitysince it satisfy human wants. Utility is different for the same commodity at different places,different time and for different individuals. The concept of utility was given by Prof. Marshal.It is also helpful in finding optimum level of satisfaction of a consumer.

1) According to Marshal, Utility is
(i) Cardinal
(ii) Ordinal
(iii) Both (i) and (ii)
(iv) Neither (i) nor (ii)
2) If Total Utility from consuming 5 units is 20 whereas Total Utility from consuming 6 units is 22, what will be the Marginal Utility of 6th unit?
(i) 2
(ii) 42
(iii) (-)2
(iv) None of these
3) When Total Utility is constant Marginal Utility is:
(i) zero
(ii) constant
(iii) minimum
(iv) Both (i) and (iii)
4) Who gave the concept of utility in economics?
(1) Prof. Alfred Marshal
(ii) Prof. Adam Marshal
(iii) Prof. Paul Marshal
(iv) Prof. Robbins

CASE STUDY 6

Read the given case carefully and answer the following questions on the basis of thesame.

Marginal Utility theory and derivation of demand curve through marginal utility theory wascriticized for its assumptions. So, many economists tried to find a new theory without theseassumptions. Ultimately JR Hicks and RG(D) Allen presented a scientific treatment to theconsumer theory on the basis of ordinal utility, graphically represented by indifference curves.An indifference curve shows a set of different combinations of quantities of two goods thatyield same satisfaction to the consumer. This theory was based upon the assumption ofrationality, ordinality, consistency and transitivity of choices.

1) Ordinal utility can be:
(i) measured
(ii) ranked

(iii) Both (i) and (ii)
(iv) None of these

2) A curve that shows various combinations of two goods giving same level of satisfaction to the consumer is:

(i) Indifference Curve
(ii) Production Possibility Curve
(iii) Both (i) and (ii)
(iv) Budget Line

3) Which of the following is not a property of indifference curve?

(i) It is negatively sloped.
(ii) Two indifference curves can interest each other.
(iii) Higher the indifference curve, higher the level of satisfaction
(iv) None of these

4) Which of the following is not a condition for a consumer to be in equilibrium with Indifference curve analysis?

(i) Indifference curve must be tangent to budget line
(ii) Indifference curve must intersect budget line
(iii) Indifference curve must be concave to origin
(iv) Both (ii) and (iii)

CASE STUDY 7

Read the following hypothetical case study carefully and answer the following questions.

Demand refers to various quantities of a commodity that all the buyers are willing to buy at given prices during a given period of time. Not only own price of a commodity but also many other factors also affect the demand of a commodity. Such as price of the related goods-there are two types of related goods 1. Substitute goods 2. Complementary goods. In these cases, change in the price of one good also affects the demand of related good. Income of the consumers- on the basis of income, there are two types of goods-normal good and inferior goods. Economists say that there is no inferior or normal goods. It depends on the income level of the consumer. One good may be inferior for one person but the same good may be normal for another person. Normal goods are those goods whose demand increases with an increase in the income of consumer and vice –versa. Reverse happens in case of inferior goods. Taste and preference of the consumer, size of the population and government policy also affect the demand of a commodity which is known as determinants of demand.

i) There is _____ (direct/Inverse) relationship between price of a commodity and its demand.
ii) If the price of X good rises then the demand of Y good also rises then both goods are_____(Complementary/Substitute). (Choose the correct option)
iii) Demand for inferior good rises due to _____(Fall/Rise) in the income of the consumer.(Choose the correct option)
iv) Which are not determinants of demand of a commodity?

a) Own price of a commodity b) Income of the consumer
b) Nature of a commodity d) Size of population

CASE STUDY 8

Read the given case carefully and answer the following questions on the basis of the same.

Farmers in our country are mostly small and marginal. They produce for self-consumption and hardly have any surplus crop to sell in the market. These farmers produce with the help of their family members. Also due to limited landholding at times, there are more labours working compared with what is actually required, this leads to disguised unemployment. The use of primitive tools and techniques further reduces the ability of these families to increase production.

1) In the case of disguised unemployment, the marginal product of labour is equal to
a) Zero
b) Positive
c) negative
d) Either a) or c)

2) In the case of land, the 'law of returns to factor' is applicable in _____ .
a) Short-run
b) medium run
c) long run
d) None of these

3) In the above situation, productivity was low due to _____ .
a) fixity of land
b) use of primitive tools and techniques
c) excessive use of variable factor
d) All of the above

4) A rational producer should opt to produce in __ stage.
a) increasing returns to factor
b) diminishing returns to factor
c) constant returns to factor
d) None of the above

CASE STUDY 9

Read the following hypothetical text and answer the given questions:

In reality, all economies are mixed economies where some important decisions are taken by the government and the economic activities are by and large conducted through the market. The only difference is in terms of the extent of the role of the government in deciding the course of economic activities. In the United States of America, the role of the government is minimal. The closest example of a centrally planned economy is the China for the major part of

the twentieth century. In India, since Independence, the government has played a major role in planning economic activities. However, the role of the government in the Indian economy has been reduced considerably in the last couple of decades.

1. Whether the following statement is true or false: "A centrally planned economy has been followed by India in the last two decades".

2. Economy may be classified as:

(a) Capitalist (b) socialist (c) mixed (d) all of these

3. Which economy has a co-existence of private and public sectors?

(a) Capitalist (b) Mixed (c) Socialist (d) none of these

4. In the USA, the role of the government is minimal, due to:

(a) Capitalist economy (b) socialist economy (c) mixed economy (d) all of these

CASE STUDY 10

Read the following hypothetical text and answer the given questions:

Each economy has scarce resources and will have possibility of being exhausted gradually after a continuous use. Growth of resources, therefore, become a basic problem of the economy. It can achieve this objective through technological advancement. Under-developed countries like India, Pakistan, Thailand etc. have remained poor because of poor growth of their resources. Besides fuller utilization of resources, these countries should try to raise their productive capacities, by exploring further availability of natural resources and discovering better techniques for their use. Moreover, full use of productive capacity is also indispensable for the growth of the economy. Since economic theory is classified into Micro and Macro Theory. Microeconomic theory deals with the allocation of resources in the market economy. In this theory, decisions regarding 'what', 'how' and 'for whom' to produce are decided on the basis of price mechanism. Goods are freely bought and sold in the market economy on an agreed price.

Microeconomic theory deals with the fuller and efficient use of resources. It also deals with the growth of resources and problems relating saving, investment, inflation, unemployment etc. Development economics deals with the problem of growth of resources.

1**. Which is a central problem of an economy?**

(a) Allocation of resources (b) optimum utilisation of resources

(c) Economic development (d) all of these

2. To which factor, economic problem is basically related to:

(a) Choice (b) Consumer selection (c) firm selection (d) none of these

3. What measures have been followed by India to raise its productive capacities by exploring?

(a) Technique (b) Natural resources (c) Discovering better technique (d) all of these

4. Micro Economics deals with the ……..

(a) Allocation of resources (b) Aggregate use of resources

(c) both (a) & (b) (d) none of these

CASE STUDY 11

(1) Read the following report and answer the questions on the basis of the same:-

Economists use the term demand to refer to the amount of some good or service consumers are willing and able to purchase at each price. Demand is based on needs and wants—a consumer may be able to differentiate between a need and a want, but from an economist's perspective they are the same thing. Demand is also based on ability to pay. If you cannot pay for it, you have no effective demand. What a buyer pays for a unit of the specific good or service is called price. The total number of units purchased

at that price is called the quantity demanded. A rise in price of a good or service almost always decreases the quantity demanded of that good or service. Conversely, a fall in price will increase the quantity demanded. When the price of a gallon of gasoline goes up, for example, people look for ways to reduce their consumption by combining several errands, commuting by carpool or mass transit, or sand quantity demanded the law of demand. The law of demand assumes that all other variables that affect demand are held constant.

1 The law of demand states that other things being constant: -

(a) When prices rise demand rises.
(b) When prices rise demand falls
(c) When income rises demand rises
(d) When income rises demand falls.

2.When the price of a substitute of commodity X rises, the demand for X_____

a) Rises (b) Falls (c) Remains constant (d) None of the above

3. Demand has reference to: -

(a) A given period of time
(b) A given price
(c) A given period of time and given price
(d) None of the above.

4. Law of demand must fail in case of: -

a) Normal goods (b) Giffen goods (c) Inferior goods (d) None of these

CASE STUDY 12

Read the following and answer the questions on the basis of the same: -

A consumer is an economic agent who uses goods and services for the direct satisfaction of his / her wants. Consumer consists of institution, individuals and groups of individuals or households. Consumer behaviour refers to the way in which consumers spend their income. The consumer derives utility from his expenditure. The consumer chooses his expenditures and maximums his utility with the given income and given prices of goods and services. Consumption of goods and services leads to satisfaction of human wants. This satisfaction is called "Utility". Utility may be defined as "satisfaction derived from the consumption of a commodity" or it may be defined as "want-satisfying power of a commodity". Total Utility (TU) It is the sum total of utility derived from the consumption of all the units of a commodity. Marginal Utility (MU) It refers to additional utility on account of the consumption of an additional unit of a commodity.

1. Utility in economics means: -
(a) Want satisfying power of a commodity
(b) Pleasure
(c) Happiness
(d) Usefulness

2. Marginal utility is: -
(a) Total minus average utility
(b) Addition to total utility
(c) Total plus average utility
(d) Total utility divided by the number of units

3. When total utility increases marginal utility is: -
(a) Negative and increasing
(b) Negative and declining
(c) Zero
(d) Positive and declining

4. At the saturation point for commodity X, the MU is: -
(a) Positive (b) Negative (c) Zero (d) Any of the above.

CASE STUDY 13

Read the following case study carefully and answer the questions 1-6 on the basis of the same.

Production takes place when various inputs, for example labour, land and machinery (capital) are combined, typically under the direction of some firm owner or manager, to produce some sort of output. Asoneinputofproduction isadded to a fixed amount of other inputs, after some point, the marginal productofthevariable input continually diminishes. Marginal product is the increase in output that occurs when an additional labour is used; this is a different quantity from output for any given worker (the first or the last) which is the average product.

1._____ refers to the functional relationship between physical inputs and physical output of a commodity. (Fill up the blank with correct alternative)
(a) Production function (b) Product function (c) Technical function (d) None of these

2.Which of the following is not true about short period production function? (Choose the correct alternative)
a)Factor ratio changes with change in the volume of output
b)Output is increased by increasing the application of one variable factor only
c)Scale of output changes with the change in the level of output
d) It is studied with reference to "Returns to a Factor"

3. A rational producer will produce in which stage of production? (Choose the correct alternative)
(a) Stage 1 (b) Stage 2 (c) Stage 3 (d) None of these

4. The point from where slope of TP changes is called_____.(Fill up the blank with correct alternative)
(a) point of reflection (b) point of inflexion (c) point of saturation (d) none of these

5. Read the following statements carefully and choose the correct alternative among those given below:

Statement 1 : Law of variable proportions is a very short period concept.

Statement 2 : Returns to scale is a short period concept.

Alternatives:

a) Both the statements are true

b)Both the statements are false

c)Statement 1 is true and Statement 2 is false

d)Statement 2 is true and Statement 1 is false

6. **In case of long period production function, output is increased by increasing the application of all factors.** True or False.

CASE STUDY 14

Read the following case study carefully and answer the questions on the basis of same:

The existence of a large number of buyer and seller means that each individual buyer and seller is very small compared to the size of the market. This means that no individual buyer or seller can influence the market by their size .Homogenous Products further mean that the product of each firm is identical. So a buyer can choose to buy from any firm in the market, and she gets the same product .Free entry and exit means that it is easy for firm to enter the market, as well as to leave it.

1. Which one of the following does not support the argument of perfectly competitive firm being a price taker?

a. Large numbers of firms
b. Sale of homogeneous products
c. Price discrimination
d. Price fixation by the industries

2.----------degree of product differentiation is found under perfect completion.

a. Zero b. one c. Infinite d. None of these

3. Under perfect competition, demand curve of a firm is:

a. Perfectly elastic b. Perfectly inelastic c. More elastic d. less elastic

4.A firm under perfect competition earns only normal profits in the short run . True /False

5. Read the following statements carefully and choose the correct alternative among those given below:

Statement 1: perfectly competitive firms exercise partial control over price.

Statement 2 Product differentiation is widely practiced under perfect competition.

Alternatives:

a. Both the statements are true
b. Both the statements are false
c. Statement 1 is true and statement 2 is false
d. Statement 2 is true and statement 1 is false

Case Studies -15

Q. **1.Read the following case study carefully and answer the following questions on the base of same.**

Suppose person X is running a bakery shop at his home. He has invested Rs.4,00,000 as capital and has also borrowed Rs. 2,00,000 from ABC bank at an interest rate of 8% p.a. He has also hired a manger at a monthly salary of Rs. 15,000/-. The imputed monthly rent of his bakery shop is Rs. 20,000/-.

(a) Define implicit cost.

(b) Define explicit cost

Case studies -16

Q. 2. **Read the following case study carefully and answer the questions that follow:**

During January 2020, Coronovirus cases began to increase in China. Entire world is accruing China of pandemic because it had spread to many other countries. In early March 2020 Indian government announced country wide lockdown to control the spread of virus. As result, import of Chinese mobile phones got affected in India.

(a) What will be the effect of above case study on supply curve of Chinese mobile phones in India? (Leftward shift in supply curve/ Downward Movement along same supply curve). Tick the correct answer. (1 Mark)

(b) Choose the reason for the above effect on supply of Chinese mobile phones. (Change in its price/change in factors other than price). (1 Mark)

(c) Show the above mentioned effect of point no. 01 on supply curve of Chinese mobile phones diagrammatically? (1 Mark)

Case Studies -17

Q. 3.Read the passage and answer the questions:

Production function expresses the relationship between the physical input and physical output of a firm for a given state of technology. It is a purely technical relation that connects factor inputs and output. Law of variable proportion explains the relationship between inputs and output in the short period. This Law was developed by Alfred Marshall. It concerns itself with the way the output changes when the unit of variable factor is increased. Hence it refers to the effect of the changing factor ratio on the output.

According to Marshall, when land is kept as constant and number of workers working on it is Increased, total product goes on increasing at the increasing rate in the first stage, in the second stage it increases at a diminishing rate and in the third stage negative returns occur.

(a) Production function expresses the relationship between ……..

(i) Physical input & demand, (ii) Supply & physical output, (iii) Physical input & physical output

(b) In short run …….. (All / some) factors are fixed.

(c) Which of the following is not a phase of LVP?

(i) MP increases, (ii) MP is negative, (c) Both (i) & (ii), (d) None of these.

(d) Define the law of proportion.

(e) What are the stages according to Marshall when land is constant?

Case Studies-18

Read the passage given below and answer the questions that are followed: [6]

A price floor is the lowest legal price that can be paid in a market for goods and services, labour, or financial capital. Perhaps the best-known example of a price floor is the minimum wage, which is based on the normative view that someone working full time ought to be able to afford a basic standard of living.

(a) Define Price Floor. What is the common purpose of fixation of floor price by the government? Explain any one likely consequence of this nature of intervention by the government. [3]

(b) Discuss "surplus amount of production as a direct consequence of price flooring".

Case Studies - 19

Read the passage given below and answer the questions that are followed:

In a market system, all goods or services come with a price (which is mutually agreed upon by the buyers and sellers) at which the exchanges take place. The price reflects, on an average, the society's valuation of the good or service in question. If the buyers demand more of a certain good, the price of that good will rises. This signals to the producers of that good that the society as a whole wants more of that good than is currently being produced and the producers of the good, in their turn, are likely to increase their production. In this way, prices of goods and services send important information to all the individuals across the market and help achieve coordination in a market system. Thus, in a market system, the central problems regarding how much and what to produce are solved through the coordination of economic activities brought about by the price signals.

On the basis of the given text and common understanding, answer the following questions:

(a) Why does an economic problem arise? [2]

(b) Explain the problem of 'what to produce' with the help of an example. Does it arise in every economy? Explain. [4]

STATISTICS FOR ECONOMICS -CASE BASE QUESTIONS

Q.1 Read the following Case Study carefully and answers the questions on the basis ofthe same:

Census of India is a decennial publication of the Government of India. It is published byRegistrar General and Census Commissioner, Under Ministry of Home Affairs, Government of India. It is a very comprehensive source of secondary data. It relates to population size and various aspects of demographic changes in India. Under the Ministry of Home Affairs, Government of India. It may be of historical interest that though the population census of India is a major administrative function; the Census Organisation was set up on an ad-hoc basis for each Census till the 1951 Census. The Census Act was enacted in 1948 to provide for the scheme of conducting population census with duties and responsibilities of census officers. The Government of India decided in May 1949 to initiate steps for developing systematic collection of statistics onthe size of the population, its growth, etc., and established an organisation in the Ministry of Home Affairs under Registrar General and ex-Officio Census Commissioner,India.

1. Data originally collected in the process of investigation are known as _____ (Primary data / Secondary data).
2. The problem of double conclusion arises in_____(indirect oral investigation/direct personal interview).

3. Post independence, the first census of India was conducted in____(1949/1951).
4. Census of India is carried out once in_____years. (10 / 5)

Q.2 Read the following Case Study carefully and answer the questions on the basis of thesame:

Unpublished data or literature is known as grey literature in research. (The term 'grey literature' also includes data published in a non-commercial form, such as a conferenceproceeding.) These data are collected by the government organisations and others, generally for their self-use or office record. Unpublished data is useful mainly in secondary research, such as literature reviews and systematic reviews. It provides pointers to new research and perhaps also research paths to avoid. Preprints are a growing form of unpublished data these days and have proved very useful in guiding research in critical areas such as COVID-19. Published sources of secondary data aregovernment publications, semi-government publications, publications of research institutions, international publications etc.

_____Data are collected from published or unpublished reports. (Primary/ Secondary)
In the case of a_____, answers are to be written by the enumerators specificallyhired for the purpose. (Questionnaire/ Schedule)
_____Publish data relating to education, health, births and deaths. (Government publications/ Semi- Government Publications)
76th round of NSSO was on_____(Persons with disabilities and drinking water/density of population).

Q.3 Read the following passage and answers the questions:

The census of India provides the complete and continuous demographic record of population. Population census, known as the census, is the process of collecting, compiling and analyzingthe data on economic, social, or demographic areas at a specific period of a particular area or in the wholecountry. It provides data about the recent trend in the population and the situation of the country or anyplace. The census of India is one of the largest administrative exercises undertaken in the world. In India, thepopulation census is done at a specific time interval of every 10 years. The NSSO was established by the Govt. of India to conduct nationwide survey on socio-economic issues like employment, literacy, maternity, child care, utilization of public distribution system etc.

The data-collected by NSSO survey are released through reports and its quarterly journal ''Sarvekshana''. Eg. Size, growth rate, distribution of population, density, population, projections, sex compositionand literacy. These data are used by govt. of India for planning purpose.

Multiple Choice Questions

1) data was collected directly from the investigator from the responded.
(a) Primary data
(b) Secondary data
(c) Sample data
(d) One of the above

2. Data collected by an economics student from the government publication to prepare a project report is a…….
(a) Primary data
(b) Secondary data
(c) Sample data
(d) None of the above

3. Pre-testing of the questionnaire is called as……
(a) Mailing questionnaire
(b) Census
(c) Sampling survey
(d) Pilot Survey

4. India Express TV-CNX opinion poll shows most of the seats in India are expected to win by BJP and also the various other news channels predict the same. The finding of the opinion polls of various newschannels are based on.
(a) Secondary data
(b) Sample data
(c) Census
(d) None of the above

5. The researcher gives each member of the population a number and researchers drawnumber from the box randomly to choose samples and it is also called as…….
(a) Sample survey method
(b) Census
(c) Lottery method
(d) None of the above

6. Which of the following statement is false?
(a) Primary data are collected from source of origin
(b) Secondary data do not need any adjustment
(c) Secondary data are not collected from the source of origin
(d) Primary data are costlier in terms of time, money ad efforts**.**

Q.4 Read the following passage and answers the questions that follow:

Activities involved in production (manufacturing), distribution (transportation) and consumption (retail) are constantly seeking economies to improve their competitiveness and increase their market share. The consumption of goods andservices is a primary component of economic well-being and, as such, a primary indicator of living standards. Wealth and income are available to support consumption, today and in the future. Production, in the market and at home, supports consumption. Economies of transportation relate to the benefits that lower transport costs maygrant to specific activity sectors and are derived from a locational choice. For production, it relates to a location that minimizes total transport costs and thus lowers production unit costs. Some are elements of transport costs in productionwhile others are elements of transport costs in consumption.

Economies of scope relate to the benefits derived by expanding the range of goods and services. For production, they are commonly based on product diversification and flexible manufacturing systems able to produce a variety ofproducts in view of changes in the demand and consumer preferences. For distribution, economies of scope are very important and commonly achievedwhen a transporter is able to bundle several different loads into fewer loads. For consumption, activities offering a wider range of goods or services are usually able to attract more customers since they have more choices. Economies of scale andeconomies of scope are highly related.

(i) Economics is a_____science which studies economic behaviour of a man.
(a) Social (b) Physical (c) Both (a) and (b) (d) none of these

(ii) Assertion (A): Economies of scale and economies of scope are highly related.
Reason (R): Both economies of scale and economies of scope result in thesavings in cost.

(a) Both A and R are true and R is the correct explanation of A.
(b) Both A and R are true but R is not the correct explanation of A
(c) A is true but R is false.
(d) A is false but R is true.
(iii) When we want to know how the consumer decides, given his income andmany alternative goods to choose from, what to buy when he knows the prices.This is the study of_____.
(a) Production (b) consumption (c) distribution (d) Both(a) and (b)

Q.5 A Candidate obtained the following percentage following of marks in anexamination: English 60; Business Studies 75; Maths 63; Accounts 59; Economics 55. Find the candidate's weighted arithmetic mean, if weights 1,2, 1, 3, 3 respectively are allotted to the subjects

6. Median represents the middle value for any group. It is the point at which half the data is more and half the data is less. Median helps to represent a large number of data points with a single data point. The median is the easiest statistical measure to calculate. For calculation ofmedian, the data has to be arranged in either ascending or descending order, and then the middlemost data point represents the median of the data. Further, the calculatin of the mediandepends on the number of data points. For an odd number of data, the median is the middlemost data, and for an even number of data, the median is the average of the two middle values.

i) Divides a series into two parts.
a) Arithmetic mean b) Media c) Mode d) None of these
ii) For calculating median, all items of the series are arranged in:
a) Descending order b) Ascending order c) Either (a) or (b) d) None of these
iii) Median of number: 7,4,2,8,10 will be:
a) 2 b) 4 c) 7 d) 8

Q7. Mode is the value of a variate which is repeated most often in the data set. The genesis of the word 'mode' lies in the French word 'le mode' that menas fashion. Mode is, therefore, considered to be the most common or most fashionable value. Mode is often considered to bethat value of the variate which occurs most frequently. But it is not exactly true for every frequency distrubution. Rather it is that value of the variate around which the other items tendto concentrate most heavily. It shows the centre of concentration of the frequency in and around a givne value.

i) Mode refers to that value of a sereis which occurs..... number of times.
a) Zero b) Minimum c) Maximum d) None of these
ii) Mode of numbers: 7,6,8,6,10,6,8,7,6, will be:
a) 6 b) 7 c) 8 d) 10
iii) The value of the variable which occurs most frequently in a distribution is termed as:
a) Airthmetic Mean b) Median c) Mode d) None of these

Q8. Correlation refers to the statistical relationship between two entities. In other words, it'show two variables move in relation to one another. It expresses the extent to which two variables are linearly related. It's a common tool for describing simple relatinships without making a statement about cause and effect. The correlation coefficient ranges from -1 to +1 and is denoted by r. The three possible results of a correlation is a relationship between two variables in which both variables move in the same direction. Therefore, when one variable increases as the other variable increases, or one variable decreases while the other decreases.An example of positive correlation would be height and weight. Taller people tend to be heavier.

Negative Correlation is a relationship between two variables in which an increase in one variable is associated with a decrease in the other. An example of negative correlation wouldbe height above sea level and temperature.

Zero Correlation exists when there is no relationship between two variables. For example there is no relationship between the amount of tea drunk and level of intelligence.

i) Coefficient of correlation lies between:
   a) -1 and 0 b) 0 and +1 c) -1 and +1 d) None of these
ii) When two variables change in the same direction, then such a correlation is called:
   a) Positive Correlation b) Negative Correlation c) Zero Correlation d) None of these
iii) Coefficient of correlation can never be:
   a) More than +1 b) Less than +1 c) More than 0 d) None of these
iv) Correlation between two variables can be:
   a) Negative b) Positive c) Zero d) All of the above

Q9. Census of India is a decennial publication of the Government of India. It is published by Registrar General and Census Commissioner, Under Ministry of Home Affairs, Government of India. It is a very comprehensive source of secondary data. It relates to population size and various aspectsof demographic changes in India. Under the Ministry of Home Affairs, Government of India. It may be of historical interest that though the population census of India is a major administrative function; the Census Organisation was set up on an ad-hoc basis for each Census till the 1951 Census. The Census Act was enacted in 1948 to provide for the scheme of conducting population census with duties and responsibilities of census officers. The Government of India decided in May 1949 to initiate steps for developing systematic collection of statistics on the size of the population, its growth, etc., and established an organisation in the Ministry of Home Affairs under Registrar General and ex-Officio Census Commissioner, India.

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ii)The problem of double conclusion arises in_____(indirect oral investigation/ direct personal interview).
iii) Post independence, the first census of India was conducted in_____ (1949/1951)
iv) Census of India is carried out once in_____years. (10/ 5)

Q10. Unpublished data or literature is known as grey literature in research. (The term 'grey literature' also includes data published in a non-commercial form, such as a conference proceeding.) These data are collected by the government organisations and others, generallyfor their self-use or office record. Unpublished data is useful mainly in secondary research, such as literature reviews and systematic reviews. It provides pointers to new research and perhaps also research paths to avoid. Preprints are a growing form of unpublished data thesedays and have proved very useful in guiding research in critical areas such as COVID-19. Published sources of secondary data are government publications, semi-governmentpublications, publications of research institutions, international publications etc.

i) _____data are collected from published or unpublished reports. (Primary/ Secondary)
ii) In the case of a_____, answers are to be written by the enumerators specifically hiredfor the

purpose. (Questionnaire/ Schedule)
iii) _____publish data relating to education, health, births and deaths. (Government publications/ Semi- Government Publications)
iv) 76th round of NSSO was on_____(Persons with disabilities and drinking water/ density of population)

Q11. **Read the following given case carefully and answer the following questions.**

The word statistics refers either to quantitative information or to a method of dealing with quantitative information. In first reference it is used as a plural noun- the statistics of birth deaths, imports exports etc. In the second reference the word is used as a singular noun statistics deals with collection presentation analysis and interpretation of quantitative information.

Q1. Which of the following is true about statistics?
(a) It refers to the numerical information.
(b) It refers to the method of dealing with quantitative information
(c) Both I and II
(d) None of the above.

Q2. Which of the following is part of statistics in singular sense?
(a) Collection of data
(b) Presentation of data
(c) Analysis of data
(d) All the above.

Q12.Read the given case carefully and answer the following questions.

A primary source is one that itself collects the data and secondary source is one that makes available data which was collected by some other agency. It may be noted a given source may be primary or secondary data. Data originally collected for an investigation are known as primary data. Such data are original in character and are generated in the large number of surveys generally conducted by the government and also by some individual institutions. Data which are not collected rather obtained from published or unpublished sources.

Q1. The process of assembling primary data is called
(a) Compiling statistics
(b) Collection of data.
(c) Both I and II
(d) None of the above.

Q2. Which of the following is the advantage of secondary data?
(a) There is no need of hiring enumerator.
(b) Secondary data saves time
(c) Both I and II
(d) None of the above.

Q3. Why primary data is preferred over secondary data?
(a) Secondary data may contain mistakes due to errors in transcription.
(b) Primary source usually show data in greater detail.

(c) Both I and II
(d) None of the above.

Q13.Read the given case carefully and answer the following questions.

The average is sometime described as a sum which is typical for the whole group. Measure of central valueenables us to get a birds eye वी of the entire data Thus value can represent thousands and even millions of values. Measures of central value by reducing the mass of data into one single figure enable comparison to be made. Comparison can be made either at a point of time or over a period of time. However while making comparison the multiplicity of causes that data are suffering.

Q1 .....Mean/median is a mathematical average.
Q2. Comparing percentage result of students in a college in the year 2020 is comparison…….at a point of time/ over a period of time.
Q3. Per capita income of a country is.....average/not an Average.
Q4. Comparing..... Wages of a factory with.... wages of another factory give meaningful conclusion.

Q14.Read the given case carefully and answer the following questions.

The simplest device for ascertaining whether two variables are related to a dot chart called scatter diagram. When this method is used the given data are plotted on the graph paper in the forms of dot i.e. for each pair of x and y we put a dot and thus obtain as many point as number of observation. By looking to the scatter of various points we can form an idea whether the variable are related or not. The greaterthe scatter of plotted points the lesser is the relationship between two variables. The more closely the points to a straight line. The higher the degree of relationship. if all the points will rise on straight line raising from lower left hand corner to the upper right hand corner. Correlation is said to be perfectly positive. On the other hand if all the points lying on a straight line failing from the upper left handcorner of the diagram correlation is said to be perfectly negative.

Q1 ..... the simplest device for relation between two variables.
(a) scatter diagram (b) Dot chart (c) Both a and b (d) None of these
Q2. If dots are more closed and form A straight line correlation
(a) Perfect positive (b) Perfect negative (c) Both a and b (d) None of these.
Q3. In the straight line joining all the data rising from lower left to upper right its correlation is
(a) Zero (b) +1 (c) -1 (d) None of these.
Q4. Correlation lies between.
(b) 0 to +1 (b) -1 to +1 (c) Zero to infinity (d) None of these.

Q15. Read the given case carefully and answer the following questions.

An economic survey revealed that 30 families in Sector 10 Chandigarh incur following expenditure inrupees in a day.

11	23	16	25	18	27	20	31	21	33
12	23	16	25	18	28	20	32	22	36
14	24	17	26	20	28	21	32	22	38

(a) Convert these data in the form of an inclusive frequency distribution, using 10-14 as the initial classinterval.

(b) How many families spend more than 29 rupees a day?

(c) How many families spend more than 19 rupees a day?

Q16.Read the given case carefully and answer the following questions.

Suppose, you want to know about the popularity of a film star among school students for this, you have to enquire from a large number of school students, by asking questions from them to collect the desired information. The data you get, to an example of primary data. If the data have been collected and processed (scrutinized and tabulated) by some other agency, they are called secondary data. They can be obtained either from published sources or from any other source. Thus, the data are primary t the source that collects and processes them for the first time and secondary for all sources that later use such date: Use of secondary data saves time and cost for example, after collecting the data on the popularity of the film star among students, your publish a report. If somebody uses the data collected by you for a similar study, it becomes secondary data

1. Primary source of data implies collection of data from ---------
   (a) Its source of origin
   (b) Journals and papers
   (c) Any website
   (d) Both (b) and (c)

2. Following do not offer first-hand information related to the statistical study under consideration.

(a) Primary sources (c) Direct sources

(b) Secondary sources (d) both (a) and (b)

3 Which of the following is a method of collecting primary data? (Choose the correct alternate

(a) Enumerator's Method
(b) Telephonic Interviews
(c) Indirect Oral Investigation
(d) All of these

4. Which of the following is a source of secondary data

(a) Census Report (c) Newspaper

(b) Journal (d) All of these

5. Read the following statements carefully and choose the correct alternative among those givenbelow:

Statement 1: Interview method is a method of collecting primary data.

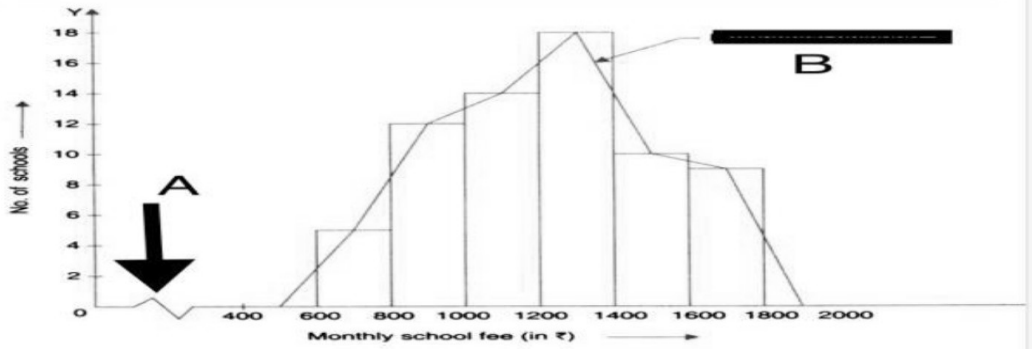
Statement 2: A schedule is generally filled by a researcher.

Alternatives:

(a) Both the statements are true
(b) Both the statements are false
(c) Statement 1 is true and Statement 2 is false
(d) Statement 2 is true and Statement 1 is false.

Q17.Read the given case carefully based on histogram and answer the following questions.

Monthly school fee ₹	No. of schools
600–800	5
800–1000	12
1000–1200	14
1200–1400	18
1400–1600	10
1600–1800	9



Q.1 What A denotes in the above diagram.

(a) False Base line (b) horizontal line
(c) Broken line (d) Both A and C

Q. 2 How many schools are there in 1400-1600 monthly school fee?

(a) 9 (b) 11 (c) 12 (d) 1

Q.3 How many schools charge monthly school fee between 1200 to 1800?

(a) 44 (b) 37 (c) 42 (d) 18

Q.4 A ---------- becomes a----------if we Draw a line joining mid points of the tops of all rectangular.

(a) Histogram, Frequency polygon (b) Frequency polygon, Histogram

(c) Frequency, Histogram (d) Histogram, Frequency

Q18.Read the given case carefully and answer the following questions.

Sensex is the short form of Bombay Stock Exchange Sensitive Index with 1978-79 as base. The value ofthe Sensex is with reference to this period. It is the benchmark index for the Indian stock Market. It consists of 30 stocks which represent 13 sectors of the economy and the companies listed are leaders in their respective industries. If the sensex rises, it indicates that the market is doing well and investors expect better earnings from companies. It also indicates a growing confidence of investors inthe basic health of the economy.

Q1. Base year is also known as:

a) Current year

b) Reference year

c) Periodic year

d) Both (a) and (c)

Q2. What does rising Sensex indicate?

Q3. What does falling Sensex indicate?

Q19.Read the given case carefully and answer the following questions.

Statistical data can be obtained from two sources. Primary sources and Secondary sources. The investigator may collect the data by conducting an Investigation. Such data are called primary data. If the data have already been collected and used by some other agency, they are called secondary data.

They can be obtained either from published sources or from any other source, for example -a website. Where primary data is more accurate, on the other side, secondary data saves money, time and energy. The most common type of instrument used in collecting data is questionnaire. It is a set of questions related to statistical enquiry.

While preparing a questionnaire, we should keep in mind the following points

1. The number of questions should be minimum as possible.
2. The questions should be related to enquiry
3. No mathematical /calculation question should be asked.

Q1. Distinguish between primary and secondary data?

Q2. Write down the characteristics of a good questionnaire?

Q3. What is questionnaire?

Q4. What are the sources of data collection?

Q20.Read the given case carefully and answer the following questions.

An economic survey revealed that 30 families in Sector 10 Noida incur following expenditure in rupees in aday.

12	40	40	30	27	20
18	11	10	18	15	26
12	15	20	43	33	25
35	6	20	11	16	37
32	20	10	07	20	31

a) Convert these data in the form of an exclusive frequency distribution, using 5-10 as the initial classinterval.

(b)How many families spend more than 35 rupees a day?
(c)How many families spend more than 20 rupees a day?

21. Read the following case study carefully and answer the question given below on thebasis of the same

A pie chart is a type of graph that displays data in a circular graph. The pieces of the graph are proportional to the fraction of the whole in each category. In other words, each slice of the pie is relative to the size of that category in the group as a whole. The entire "pie" represents 100 per cent of a whole, while the pie "slices" represent portions of the whole. Pie charts give you a snapshot of how a group is broken down into smaller pieces. The following chart shows what New Yorkers throw in their trash cans. You could read that New Yorkers (perhaps surprisingly) throw a lot of recyclables into their trash, but a pie graph gives a clear picture of the large percentage of recyclables that find their way into the trash

Source-https://www.statisticshowto.com/probability-and-statistics/descriptive-statistics/pie-chart/

State the type of diagram will be the most suitable to present the following information,also provide a brief definition of the same.

1. Percentage contribution of different sectors to gross domestic product during 2023-24.
2. Percentage contribution of different sectors to gross domestic product from 2016-17 to 2023-24.

22. Read the following text carefully and answer the question given below on the basis of the same:

Sometimes, you may be interested in knowing the most typical value of a series or the value around which maximum concentration of items occurs. For example, a manufacturer would like to know the size of shoes that has maximum demand or style of the shirt that is more frequently demanded. Here, mode is the most appropriate measure. The word mode has been derived from the French word "la Mode" which signifies the most fashionable values of a distribution, because it is repeated the highest number of times in the series. Mode is the most frequently observeddata value. It is denoted by Mo or Z.

1. Which factors should be kept in mind while deciding which average is suitable?
2. What is Mode?

23. Read the following case study carefully and answer the question given below on the basis of the same:

Some variables are related by nature. For example, there exists some relationships between height of father and height of son, price of a commodity and amount demanded, the yield of a plant and manure added, cost of living and wages, etc. This is a case of 'bivariate data and such analysis is called as bivariate data analysis. Correlation is one type of bivariate statistics. Correlation is the relationship between two variables in which the changes in the values of one variable are followed by changes in the values of the other variable. The measure of correlationis only a measure of co-variation. It is a numerical measurement of the extent to which correlation can be found between two or more than two variables. It does not prove causation. Correlation may happen because of several reasons like (i) due to pure chance, (ii) both the correlated variables may be influenced by one or more other variables, and (iii) both the variables may be mutually influencing each other so that neither can be designated as the

cause and the other the effect.

Source: Prof. Dr. Krishnan Chalil, Statistical Methods for Development Research Correlation,2020

1. Elaborate upon the significance of correlation.
2. What is Correlation?
3. Give one example of bivariate data.
4. Correlation is one type of ……. statistics.(Fill in the blank)

24. Read the following case study carefully and answer the questions 1-2 on the basis of the same:

Since the beginning of the nineteenth century, a large number of price index number formulae have been developed, mostly named after their inventors, such as the Paasche and Layspeyres indexes Parallel with the invention of new index formulae, criteria were developed for distinguishing between them. These parallel developments culminated in Irving Fisher's two classics on index numbers, The Purchasing Power of Money (1911) and The Making of Index Numbers (1922). In these, Fisher evaluated index formulae in a systematic way with respect to a number of "tests". The crucial problem behind the assessment of measurement formulae is that they are not theories and thus cannot be assessed as such. They cannot be tested in the usual way by comparing quantitative data generated by the formula with the quantitative data of the phenomenon to see whether they differ significantly or not. The reason is quite obvious: to obtain quantitative data of the phenomenon we need to possess a measuring device. The assessment of the formulae depends not only on whether they fulfill certain theoretical and empirical requirements but also on how these requirements are fulfilled. That is, formulae are also assessed on the basis of how they are constructed, whether it is done in a rigorous way or not.

1. Why the Fisher's index is called an ideal index? 3

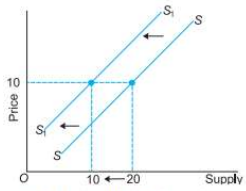
2. State the basic difference between Laypere's index number and Paasche's index number.

INTRODUCTORY MICROECONOMICS

CASE STUDY QUESTIONS ANSWERS

Case Study	No.	ANSWERS
1	1	Giffen Goods
	2	Negative
	3	Leftward shift of the demand curve
	4	Shifts to the left

2	1	Primary data
	2	Indirect oral investigation
	3	1951
	4	10
3	1	Secondary Data
	2	Schedule
	3	Semi- Government Publications
	4	Persons with disabilities and drinking water
4	1	None of these
	2	Price of factor input
	3	Increase in price of substitute goods.
5	1	Cardinal
	2	2
	3	zero
	4	Prof. Alfred Marshal
6	1	ranked
	2	Indifference Curve
	3	Two indifference curves can interest each other.
	4	Indifference curve must intersect budget line.
7	1	Inverse
	2	Substitute
	3	Fall
	4	Nature of a commodity
8	1	Zero Explanation: - In the case of disguised unemployment, the marginal productivity of labour becomes zero. Thus, he/she does not contribute anything to output.
	2	Short-run
	3	All of the above
	4	diminishing returns to factor
9	1	False
	2	All of these
	3	Mixed
	4	Capitalist
10	1	All of these
	2	Choice
	3	All of these
	4	both (a) & (b)
11	1	When prices rise demand falls
	2	Rises
	3	A given period of time and given price
	4	Giffens Goods

12	1	Want satisfying power of a commodity
	2	Addition to total utility
	3	Positive and declining
	4	Zero
13	1	Production function.
	2	Scale of output changes with the change in the level of output.
	3	Stage 2
	4	point of inflexion
	5	Both the statements are true
	6	True
14	1	Price discrimination
	2	Zero
	3	Perfectly elastic
	4	False
	5	Both the statements are false
15	1	Implicit cost or imputed cost is the estimated cost of inputs owned by the firm and used by the firm in its own production process. It includes payment for owned premises; selfinvested capital and depreciation on capital equipment.
	2	Explicit Cost: Actual money expenditure incurred by a firm on the purchase and hiring the factor inputs for the production is called explicit cost. For example-payment of wages, rent, interest, purchases of raw materials etc.
16	1	Leftward shift in supply curve
	2	change in factors other than price
	3	 Fig. 9.7 Leftward Shift in Supply Curve: Decrease in Supply
	4	
17	1	Physical input & physical output
	2	some
	3	None of these.
	4	The law of variable proportion states that as we employ more and more units of a variable input, keeping other inputs fixed, the total product increases at increasing rate in the beginning then increases at diminishing rate and finally starts falling.
	5	According to Marshall, when land is kept as constant and number of workers working on it is increased, total product goes on increasing at the increasing rate in the first stage, in the second stage it increases at a diminishing rate and in the third stage negative returns occur.
18	1	Price Floor: A price floor is the lowest legal price of a commodity at which it can be sold, and is fixed by the government. Price floors are used by the government to prevent prices from being too low. The main reason for imposing the price floor policy is the welfare of the producers/farmers. E.g.: minimum wages, minimum support price.

		(3 marks) Consequences Buffer Stock: In order to maintain the minimum support price, the government may have to build buffer stocks to enable producers to dispose of their surplus stocks. The government purchases the surplus stocks available with the farmers/producers. These stocks are released in case the production of the supported commodity suffers. (3 marks)
	2	The quantity actually brought and supplied will shrink as a direct consequence of price flooring, as a result, a part of producer's stock will remain unsold. As shown in the figure the surplus of Q'Q" arises.DD and SS are market demand and market supply curves intersecting at E. OQ quantity (equilibrium quantity) would be offered for sale and demanded by the buyers at OP price (equilibrium price) per unit. The industry is in equilibrium.
19	1	There are three reasons: Wants of people are unlimited: It is due to unending circle of wants. After the satisfaction of one want, another want arises. Resources are limited: Problem of allocation of resources arises because resources are not enough to satisfy wants of every individual. Resources have alternative uses: Scarce resources have alternative uses. When an individual chooses to use a given resource for something, he/she is unable to use those resources for anything else. (2marks)
	2	Every economy faces the problem of what to produce. Because resources are scarce, we cannot produce everything in whatever quantity we wish to, we are bound to face the problems of what to produce and how much. Illustration: Let us assume that resources available are worth 5 crore. Assuming technology to be constant, we can utilise resources entirely for the production of (say) guns and produce 500 guns, or utilise these resources entirely for the production of (say) bread and produce 500 tons of bread. We need guns for the defence and bread for the masses. Accordingly, both the guns and bread are to be produced. How much of each is to be produced depends on the wisdom of the planners in a planned economy, also upon the market forces of demand and supply in a free economy.(4marks)

STATISTICS FOR ECONOMICS
CASE STUDY QUESTIONS
ANSWERS

Case Study	No.	ANSWERS
1	1	Primary data
	2	Indirect oral investigation
	3	1951
	4	10
2	1	Secondary Data
	2	Schedule
	3	Semi- Government Publications

	4	Persons with disabilities and drinking water
3	1	a) Primary data
	2	b) Secondary data
	3	d) Pilot Surve
	4	b) Sample data
	5	c) Lottery method
	6	b) Secondary data do not need any adjustment.
4	1	(a) Social
	2	(a) Both A and R are true and R is the correct explanation of A.
	3	(b) Consumption
5		Ans. The information given in the question can be presented as follows: Weighted arithmetic mean (Xw)=ΣWX/ΣW=615/10 Hence, the weighted arithmetic mean is 61.5 marks
6	1	(b) Median
	2	(c) Either (a) or (b)
	3	(c) 7
7	1	(c) Maximum
	2	(a) 6
	3	(c) Mode
8	1	(c) -1 and +1
	2	(a) Positive Correlation
	3	(a) More than +1
	4	(d) All of the above
9	1	Primary data
	2	Indirect oral investigation
	3	1951
	4	10
10	1	Secondary Data
	2	Schedule
	3	Semi- Government Publications
	4	Persons withdisabilities and drinking water
11	1	Both I and II
	2	All the above
12	1	Collection of data.
	2	Both I and II
	3	Both I and II
13	1	Mean
	2	At a point of time
	3	Average
	4	Mean, Mean
14	1	(c) Both a and b
	2	(c) Both a and b
	3	(b) +1

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<tr><td></td><td>4</td><td>(b) -1 to +1</td></tr>
<tr><td>15</td><td>1</td><td>
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<tr><td>CI (Expenditure)</td><td>Tally bars</td><td>frequency</td></tr>
<tr><td>10-14</td><td>III</td><td>3</td></tr>
<tr><td>15-19</td><td>IIII\</td><td>5</td></tr>
<tr><td>20-24</td><td>IIII\IIII\</td><td>10</td></tr>
<tr><td>25-29</td><td>IIII\I</td><td>6</td></tr>
<tr><td>30-34</td><td>IIII</td><td>4</td></tr>
<tr><td>35-39</td><td>II</td><td>2</td></tr>
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<tr><td></td><td>2</td><td>6 families</td></tr>
<tr><td></td><td>3</td><td>22 families</td></tr>
<tr><td>16</td><td>1</td><td>It’s a source of origin</td></tr>
<tr><td></td><td>2</td><td>Secondary sources</td></tr>
<tr><td></td><td>3</td><td>All of these</td></tr>
<tr><td></td><td>4</td><td>All of these</td></tr>
<tr><td></td><td>5</td><td>Both the statements are true</td></tr>
<tr><td>17</td><td>1</td><td>False Base line</td></tr>
<tr><td></td><td>2</td><td>12</td></tr>
<tr><td></td><td>3</td><td>37</td></tr>
<tr><td></td><td>4</td><td>Histogram, Frequency polygon</td></tr>
<tr><td>18</td><td>1</td><td>Reference year</td></tr>
<tr><td></td><td>2</td><td>Rising Sensex indicates that the market is doing well and investors expect better earnings from companies. It also indicates a growing confidence of investors inthe basic health of the economy.</td></tr>
<tr><td></td><td>3</td><td>Falling Sensex indicates that the market is not doing well and investors expect less earnings from companies.</td></tr>
<tr><td>19</td><td>1</td><td>Primary data: The investigator may collect the data by conducting an Investigation. Such data are called primary data.
Secondary data: If the data have already been collected and used by some other agency, they are called secondary data.</td></tr>
<tr><td></td><td>2</td><td>(i) Questionnaire should be precise consisting minimum number of questions.
(ii) Questions should be clear and unambiguous.
(iii)It should be realted to enquiry.</td></tr>
<tr><td></td><td>3</td><td>It is a set of questions related to statistical enquiry.</td></tr>
<tr><td></td><td>4</td><td>Primary sources and Secondary sources</td></tr>
<tr><td>20</td><td>1</td><td>
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<tr><td>CLASS</td><td>5-10</td><td>10-15</td><td>15-20</td><td>20-25</td><td>25-30</td><td>30-35</td><td>35-40</td><td>40-45</td></tr>
<tr><td>FREQUENCY</td><td>2</td><td>6</td><td>5</td><td>5</td><td>3</td><td>4</td><td>2</td><td>3</td></tr>
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<tr><td></td><td>2</td><td>5 families</td></tr>
<tr><td></td><td>3</td><td>17 families</td></tr>
<tr><td>21</td><td>1</td><td>Pie Diagram: Pie diagram is a circle divided into various segments showing the per cent values of a series. This diagram does not show absolute values. This diagram is drawn only whenpercentage distribution of the value is to be diagrammatically presented.</td></tr>
<tr><td></td><td>2</td><td>Percentage Bar Diagram: Percentage bar diagram is that diagram which shows simultaneouslydifferent parts of the values of a set of</td></tr>
</table>

		data in terms of percentages. The percentage bar diagrams are used generally when the values are of high magnitude.
22	1	While selecting the relevant average, the following factors must be kept in mind: (i) Objective: (ii) Number of Variables (iii) Distribution of Items and Frequency (iv) Importance to the Highest and the Lowest Items
	2	Mode is the most frequently observeddata value. It is denoted by Mo or Z
23	1	Following observations highlight the significance of correlation as a statistical method: (1) Formation of Laws and Concepts: (ii) Cause and Effect Relationship: (iii) Business Decisions: (iv) Policy Formulation:
	2	Correlation is the relationship between two variables in which the changes in the values of one variable are followed by changes in the values of the other variable.
	3	Relationships between height of father and height of son, price of a commodity and amount demanded, the yield of a plant and manure added, cost of living and wages, etc.(Any one) .
	4	Bivariate
24	1	Fisher's index is called an ideal index because of the following reasons: (i) It is based on geometric mean which the best average is considered for computing indexnumbers. (ii) Fisher's formula provides weighted index number. (iii) Equal importance is given to base year and current year prices and quantities. (iv) Fisher's index satisfies tests of ideal index like Time Reversal Test and Factor Reversal Test.
	2	Laypere's method uses base year quantities as the weights of different items while,Paasche's method uses current year quantities as weights.

IMPORTANT QUESTIONS FOR SLOW LEARNERS

PART A : STATISTICS FOR ECONOMIS

UNIT 1: INTRODUCTION OF STATISTICS IN ECONOMICS

Q:1 Explain the following terms:

a) Consumer
b) Consumption
c) Producer
d) Production
e) Saving
f) Investment
g) Economic activity
h) Economic Problem

Answer. 1 **a) Consumer:** A consumer is one who consumes goods and services for the satisfaction of his wants.
b) Consumption: Consumption is the process of using up utility value of goods and services for the direct satisfaction of our wants. Utility value of goods means inherent capacity of goods and services to satisfy human wants.
c) Producer: A producer is one who produces and/or sells goods and services for the generation of income.
d) Production: Production is the process of converting raw material into useful things. Things become useful as they acquire utility value in the process of production.
e) Saving: Saving is that part of Income which is not consumed. It is an act of abstinence from consumption.
f) Investment: It is expenditure by the producers on the purchase of such assets which help to generate income.
g) Economic Activity: It is an activity which is related to the use of scarce means/resources. Means are always scarce in relation to our wants.
h) Economic Problem: It is the problem of choice arising on account of the fact that resources are scarce and these have alternative uses.

Q:2 What do you understand by Statistics? What are the main characteristics of Statistics?

Answer. 2 **Statistics:** Statistics are numerical statements of facts in any department of enquiry placed in relation to each other.

Features or Characteristics of Statistics

A. **Aggregate of Facts:** A single number does not constitute Statistics. No conclusion can be drawn from it. It is only the aggregate number of facts that is called Statistics, as the same can be compared and conclusions can be drawn from them.

B. **Numerically Expressed:** Statistics are expressed in terms of numbers. Qualitative aspects like 'small or big', 'rich and poor', etc. are not called Statistics.
C. **Mutually related and Comparable:** Such numerical alone will be called Statistics as are mutually related and comparable. Unless they have the quality of comparison they cannot be called Statistics.
D. **Pre-determined Objective:**Statistics are collected with some pre-determined objective. Any information collected without any define objective will only be a numerical value and not Statistics.

Q:3 What are the limitations of Statistics? Briefly explain any four points.
Answer: Limitations of Statistics.

A. **Study of Numerical Facts only:** Statistics studies only such facts as can be expressed in numerical terms. It does not study qualitative phenomena like honesty, friendship, wisdom, health, patriotism, justice, etc.
B. **Study of Aggregates only:** Statistics studies only the aggregates of quantitative facts. It does not study statistical facts relating to any particular unit.
C. **Homogeneity of Data, an essential Requirement:** To compare data, it is essential that statistics are uniform in quality. Data of diverse qualities and kinds cannot be compared.
D. **Can be used only by experts:** Statistics can be used only by those persons who have special knowledge of statistical methods. Those who are ignorant about these methods cannot make sensible use of statistics. It can, therefore, be said that data in the hands of an unqualified person in like a medicine in the hands of a quack who may abuse it, leading to disastrous consequences.

Q:4 What are the functions/importance of Statistics in Economics? Give any four points.
Answer: Importance of Statistics in Economics

A. **Quantitative Expression of Economic Problems:** Consider any economic problem, be it the problem of unemployment, the problem of price rise or the problem of shrinking exports. The first task of the economists is to understand its magnitude through its quantitative expression.
B. **Working out cause and Effect Relationship:** Economist try to find out cause and effect relationship between different sets of data. This enables them to attempt an effective diagnosis of the problem and accordingly to suggest some effective remedies.
C. **Construction of Economic theories or economic models:** What is economic theory? It is an established statistical relationship between different sets of statistical data, offering conclusions of economic significance. The well-known inverse relationship between price of a commodity and its demand is an established statistical relationship, and therefore, is a part of economic theory.
D. **Formation of Policies:** How does the finance minister decide to increase or decrease taxation as a source of government revenue? Obviously through statical studies. It is through statistical investigations that the finance minister gets feedback on the tax-paying capacity of the people, and revenue needs of the government. Accordingly tax rates are fixed to get maximum possible revenue with minimum possible discomfort to the people.

UNIT 2: COLLECTION, ORGANISATION AND PRESENTATION OF DATA

Q:1 What do you understand by Primary Data and Secondary Data? How Primary Data are different from Secondary Data?

Answer: Primary data: Data collected by the investigator for his own purpose, for the first time, from beginning to end, are called primary data.

Secondary Data: Secondary data are those data which are already in existence, and which have been collected, for some other purpose than the answering of the question in hand.

Difference between Primary Data and Secondary

Base of difference	Primary Data	Secondary Data
Originality	These are original in nature.	These data are already in existence and therefore, are not original.
Objective	Primary data are always related to a specific objective of the investigator.	Secondary data have already been collected for some other purpose.
Cost of Collection	Primary data are costlier in terms of time, money and efforts.	Secondary data do not take so much time, money and efforts.

Q:2 Explain the different methods of collecting Primary Data.

Answer: Methods of collecting Primary Data:

A. **Direct Personal Investigation:** The direct personal investigation is the method by which data are personally collected by the investigator from the respondents.
B. **Indirect Oral Investigation:**Indirect oral investigation is the method by which information is obtained not from the persons regarding whom the information is needed. It is collected orally from other persons who are expected to posses the necessary information. These other persons are known as witness.
C. **Information from Local sources or Correspondents:** Under this method, the investigator appoints local persons or correspondents at different places. They collect information in their own way and furnish the same to the investigator.
D. **Information through Questionnaire and Schedules:** Under this method, the investigator prepares a questionnaire keeping in view the objective of the enquiry. There are two ways of collecting information on the basis of questionnaire:
   I) **Mailing questionnaire survey**
   II) **Enumerator's Method**
E. **Telephonic Interviews:** According to this mode of data collection, the investigator seeks the desired information form the respondents over the telephone.

Q:3 What should be the qualities of a good questionnaire? Briefly explain any six qualities.

Answer : Qualities of a good Quetionnaire are:

A. **Limited numbers of questions:** The number of questions of in a questionnaire should be as limited as possible. Questions should be only relating to the purpose of enquiry.
B. **Simplicity:** Language of the questions should be simple, lucid and clear. Questions should be short, not long or complex. Mathematical questions must be avoided.
C. **Proper order of the questions:** Questions must be placed in a proper order.
D. **No undesirable questions:** Undesirable questions or personal questions must be avoided. The questions should not offend the respondents.
E. **Non-controversial:** Questions should be such as can be answered impartially. No controversial questions should be asked.
F. **Non calculative questions:** Questions involving calculations by the respondents must be avoided. Investigator himself should do the calculation job.

Q:4 Briefly explain any four sources of published data for collecting Secondary data.

Answer :Published sources of collecting secondary data:

A. **Government Publication:** Ministries of the Central and State Governments in India publish a variety of Statistics as their routine activity. As these are published by the government, data are fairly reliable.
B. **Semi Government publications:** Semi government bodies publish data relating to education, health, births and deaths. These data are also fairly reliable and useful.
C. **Publications of research institutions:** Various universities and research institutions publish information as findings of their research activities. In India, for example, Indian Statical Institute, National Council of Applied Economic Research publish a variety of statistical data as a regular feature.
D. **Journals and Papers:** Many newspapers such as 'The Economic Times' as well as magazines such as Commerce, Facts for You also supply a large variety of statistical information.

Q:5 There are two main sources of collecting secondary data that are 'Census of India' and 'National Sample Survey Office-NSSO'. What type of data are collected by these institutions?

Answer: Census of India: Census of India is a decennial publication of the Government of India. It is published by Registrar General & Census Commissioner of India. Census of India collects the following data

A. Size, growth rate and distribution of population in India
B. Population projections.
C. Density of population.
D. Sex composition of population
E. State of literacy.

Reports and Publications of National Sample Survey Office (NSSO): Reports and publications of NSSO is another important source of secondary data in India. NSSO is a government organization under the Ministry of Statistics and Programme Implementation. NSSO offers statistical information of the following parameters of economic change:

A. Land and Livestock holdings.
B. Housing conditions and Migration with special emphasis on slum dwellers.
C. Employment and unemployment status in India.
D. Sources of Household income in India etc.

Q:6 What do you understand by 'Census' and 'Sampling' methods of collection of data? How Census method is different from Sampling method?

Answer: Census Method: Census method is that method in which data are collected covering every item of the universe or population relating to the problem under investigation.

Sample Method: Sample method is that method in which data is collected about the sample on a group of items taken from the population for examination and conclusions are drawn on their basis.

Census and sampling Methods: A comparative Look

A. **Coverage:** In the census technique, an investigator collects information relating to all the items in the population. In sampling method, on the other hand, only some of the items which represent the population are covered for an investigation.
B. **Suitability:** Census method is suitable when the area of investigation is relatively small. On the other hand, when the area of investigation is large, it is the sampling method which is generally used.
C. **Cost:** Sampling method is certainly much less expensive than the census method. Smaller the sample size out of the given population, lesser the cost of investigation.
D. **Time:** Sample method is less time consuming than the census method.

E. **Nature of Items:** Census method is particularly suitable when the items in the population have diverse characteristics. On the other hand, sample method is suitable when items in the population are homogeneous.

Q:7 Briefly explain the following methods of non-random sampling.

a) Purposive or Deliberate Sampling
b) Stratified or Mixed Sampling
c) Systematic Sampling
d) Quota Sampling
e) Convenience Sampling

Answer: Different Sampling Methods:

I. **Purposive or Deliberate Sampling:** Purposive sampling is that method in which the investigator himself makes the choice of the sample items which in his opinion are the best representative of the universe.
II. **Stratified or Mixed Sampling:** According to this method of sampling, population is divided into different strata having different characteristics and same of the items are selected from each stratum, so that the entire population gets represented.
III. **Systematic Sampling:** According to this method, units of the population are numerically, geographically and alphabetically arranged. Every nth item of the numbered items is selected as a sample item.
IV. **Quata Sampling:** In this method, the population is divided into different groups or classed according to different characteristics of the population.
V. **Convenience Sampling:** In this method, sampling is done by the investigator in such a manner that suits his convenience.

Q:8 What do you mean by Classification of data? What are the main characteristics of a good classification?

Answer : Classification: Classification is the process of arranging things or data in groups or classes according to their resemblances and affinities, and gives expression to the unity of attributes that may exist amongst a diversity of individuals.

Characteristics of a good Classification:

I. **Comprehensiveness:** Classification of the raw data should be so comprehensive that each and every item of the data gets into some group or class. No item should be left out.
II. **Clarity:** Classification of the raw data into classes should be absolutely clear and simple. That is, there should be no confusion about the placement of any item in a group.
III. **Homogeneity:** All items in a group or class must be homogeneous or similar to each other.
IV. **Stability:** A particular kind of investigation should be based on the same set of classification. This base should not change with each investigation.
V. **Elastic:** Classification should be elastic. There should be a scope for change in the classification, depending on the change of purpose or objective of the study.

Q:9 Briefly explain the following series:

a) Individual series
b) Discrete series
c) Frequency distribution
d) Exclusive series

e) Inclusive series
f) Open-end series
g) Cumulative Frequency series
h) Mid-Values Frequency series

Answer: Different types of series:

I. **Individual Series:** Individual series are those series in which the items are listed singly.
II. **Discrete Series:** A discrete series or frequency array is that series in which data are presented in a way that exact measurements of items are clearly shown.
III. **Frequency Distribution:** It is that series in which items cannot be exactly measured. The items assume a range of values and are placed within the range or limits.
IV. **Exclusive series:** Exclusive series is that series in which every class interval excludes items corresponding to its upper limit.
V. **Inclusive Series:** An inclusive series is that series which includes all items up to its upper limit.
VI. **Open-end series:** An open-end series is that series in which lower limit of the first class interval and /or the upper limit of last class interval is missing.
VII. **Cumulative Frequency Series:** Cumulative frequency series is that series in which the frequencies are continuously added corresponding to each class interval in the series.
VIII. **Mid-Values Frequency Series:** Mid-values frequency series are those series in which we have only mid-values of the class intervals and the corresponding frequencies.

Q:10 What do you understand by Presentation of Data?
Answer: Presentation of data: The presentation of data means exhibition of the data in such a clear and attractive manner that these are easily understood and analysed.

Q:11 What is the meaning of Tabular Presentation of data and what are the merits of Tabular Presentation of Data?
Answer: Tabular Presentation: Tabulation involves the orderly and systematic presentation of numerical data in a form designed to elucidate the problem under consideration.
Merits of Tabular Presentation

I. **Simple and Brief Presentation:** Tabular presentation is perhaps the simplest form of data presentation. Data, therefore, are easily understood. Also, a large volume of statistical data is presented in a very brief form.
II. **Facilitates Comparison:** The tabulation facilitates comparison of data by presenting the data in different classes.
III. **Easy Analysis:** It is very easy to analyse the data from tables. It is by organizing the data in the form of table that one finds out their central tendency, dispersion and correlation.
IV. **Highlights Characteristics of Data:** Tabulation highlights characteristics of data. Accordingly, it becomes easy to remember the statistical facts.
V. **Economical:** Tabular presentation is a very economical mode of data presentation. It saves time as well as space.

Q:12 What do you mean by Bar Diagram? Briefly explain all five types of Bar Diagrams.
Answer : Bar Diagram: Bar diagrams are those diagrams n which data are presented in the form of bars or rectangles. Bars also called columns.

Types of Bar Diagrams:

I. **Simple Bar Diagram:** Simple diagrams are those diagrams which are based on a single set of numerical data.
II. **Multiple Bar Diagrams:** Multiple Bar Diagrams are those diagrams which show two or more than two sets of data simultaneously. Generally, these diagrams are used to make comparison between two sets of series, such as birth rate and death rate series.
III. **Sub divided Bar Diagram:** Sub-divided bar diagrams are those diagrams which simultaneously present, total values as well as part values of a set of data.
IV. **Percentage Bar Diagrams:** Percentage bar diagrams are those diagrams which show simultaneously, different parts of the values of a set of data in terms of percentages.
V. **Deviation Bar Diagrams:** The deviation bar diagrams are used to compare the net deviation of related variables with respect to time and location. Bars representing positive and negative deviations are drawn above and below the base line.

Q: 13 What is the 'Use of False Base Line' in construction of a graph?

Answer: Use of False Base Line: If the values in a series are very large and the difference between the smallest value and zero is high and if these values are to be indicated on Y-axis of the graph, then the Y-axis is started somewhere above the point '0'.

Q:14 What are the Merits and Demerits of Diagrammatic and Graphic presentation of data? Briefly explain three points of each.

Answer: Merits of Diagrammatic and Graphic Presentation:

I. **Simple and Understandable Information:** Even the most complex statistical information is made simple and understandable with the help of diagrams and graphs. One can understand the features of data merely by having a look at the picture.
II. **Lasting Impact:** Diagrammatic or graphic presentation leaves a lasting impact on the reader's mind. Information is not easily forgotten.
III. **Attractive and Effective Means of Presentation:** Diagrams and graphs are very attractive and effective means of presenting data. It is rightly said that a picture is worth of a thousand words.

Limitations of Diagrammatic and Graphic Presentation:

I. **Limited use:** Only a limited set of data can be presented in the form of a diagram. In fact, diagrams and graphs are generally used only when comparisons are involved or when time-series data are to be presented.
II. **Misuse:** Diagrams may be misused for false projection of the statistical facts, especially in case of advertisements.
III. **Only Preliminary Conclusions:** It may not be always easy to arrive at final conclusions after seeing the diagrams. Multiple information in the form of diagrams and graphs may offer only preliminary conclusions.

UNIT 3 STATISTICAL TOOL AND INTERPRETATION

Q:1. What are the properties of arithmetic mean?

Answer : Arithmetic mean has the following properties:

(i) The sum of deviations of the items from arithmetic mean is always zero.

(ii) The sum of squared deviations of the items from arithmetic mean is minimum.

(ii) If each item of a series is increased, decreased, multiplied or divided by some constant, then arithmetic mean also increases, decreases, multiplies or is divided by the same constant.
(iv) The product of the arithmetic mean and the number of items on which mean is based is equal to the sum of all given items.
(v) If each item of the original series is replaced by the actual mean, then the sum of these substitutions will be equal to the sum of the individual items.

Q:2.Following are the wages received by 10 workers in a factory. Calculate the average wage of the workers.

Wages	1780	1760	1690	1750	1840	1920	1100	1810	1050	1950

Answer:

Worker	Wages (X)
1	1780
2	1760
3	1690
4	1750
5	1840
6	1920
7	1100
8	1810
9	1050
10	190
N=10	Σ=1650

$\bar{X}=\frac{\Sigma X}{N}$; ΣX =16650, N=10

$\bar{X}=\frac{16650}{10}$ = 1665

Hence, the average wage of the workers = 1,665.

Q:3. Following are the marks obtained by 60 students in economics. Find out the mean marks by using Direct Method.

Marks	Number of students
20	8
30	12
40	20
50	10
60	6
70	4

Answer:

Marks (X)	Number of students or (f)	(fX)
20	8	160

30	12	360
40	20	800
50	10	500
60	6	360
70	4	280
	$\Sigma f = 60$	$\Sigma fX = 2460$

$\bar{X} = \frac{\Sigma fX}{\Sigma f}$

$= \frac{2460}{60}$ = 41

Hence mean marks = 41.

Q:4 . The following table shows marks in English secured by students of class XI in your school in their examination. Calculate mean marks using Direct Method.

Marks	0-10	10-20	20-30	30-40	40-50	50-60
Number of students	5	10	25	30	20	10

Answer:

Marks	Mid-value (m)	Number of students (f)	(fm)
0-10	5	5	25
10-20	15	10	150
20-30	25	25	625
30-40	35	30	1050
40-50	45	20	900
50-60	55	10	550
		$\Sigma f = 100$	$\Sigma fm = 3300$

$\bar{X} = \frac{\Sigma fm}{\Sigma f}$

$= \frac{3300}{100}$ = 33 Hence mean marks = 33

Q:5. Following information pertains to the daily income of 150 families. Calculate the arithmetic mean.

Income	Number Of Families
More than 75	150
More than 85	140
More than 95	115
More than 105	95
More than 115	70
More than 125	60
More than 135	40
More than 145	25

Answer:

Conversion of a Cumulative Frequency Distribution into a Simple Frequency Distribution

(Assumed Mean, A =110)

Income	Mid-value	f	(d= m-A) A=110	Step-deviation d'	fd'
75-85	80	150-140=10	-30	-3	-30
85-95	90	140-115=25	-20	-2	-50
95-105	100	115-95=20	-10	-1	-20
105-115	110	95-70=25	0	0	0
115-125	120	70-60=10	10	1	10
125-135	130	60-40=20	20	2	40
135-145	140	40-25=15	30	3	45
145-155	150	25	40	4	100
		Σf= 150			Σfd'=95

$\bar{X}$= A + $\frac{\Sigma f d\prime}{\Sigma f}$ × C

= 110 + $\frac{95}{150}$×10

= 110 +6.3

= 116.3

Arithmetic mean = 116.3.

Q:6. The height of seven tallest students of your school is as follows:

Height (feet)	5.5	6.0	5.9	5.7	6.0	6.1	5.9

Find the median height

Answer:

The data is first arranged in ascending order:

S.NO.	1	2	3	4	5	6	7`
Height	5.5	5.7	5.9	5.9	6.0	6.0	6.1

M= Size of $\left(\frac{N+1}{2}\right)$th item

= Size of $\left(\frac{7+1}{2}\right)$th item

= Size of 4th item. = 5.9 Median height = 5.9 feet.

Q: 7. Calculate median from the following data:

Size	1	2	3	4	5	6	7	8	9
Frequency	2	7	17	29	38	41	40	30	17

Answer:

Size	Frequency (f)	Cumulative Frequency
1	2	2
2	7	9
3	17	26
4	29	55
5	38	93
6	41	134(M)
7	40	174
8	30	204
9	17	221
	N=221	

Median =Size of $\left(\frac{N+1}{2}\right)$ th item

=Size of $\left(\frac{221+1}{2}\right)$ th item

= Size of 111th item

The value of 111th item lies in 134 cumulative frequencies of the series whose value is 6.

Therefore, Median = 6.

Q:8. The following table gives the age of residents of a locality. Calculate the median age of the residents.

Age	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80
Number of Residents	12	18	35	42	50	45	20	8

Answer

Age	Frequency (f)	Cumulative Frequency
0-10	12	12
10-20	18	30
20-30	35	65
30-40	42	107(c.f.)
40-50 (l_1)	50(f)	157
50-60	45	202
60-70	20	222
70-80	8	230
	$\Sigma f = N = 230$	

M = Size of $\left(\frac{N}{2}\right)$ th item

= Size of $\left(\frac{230}{2}\right)$ th item = Size of 115^{th} item

115th item lies in 157th cumulative frequency and the corresponding median class is 40-50.

Median= $l_1 + \frac{\frac{N}{2} - c.f.}{f} \times i$

$= 40 + \frac{\frac{230}{2} - 107}{50} \times 10$

$= 40 + \frac{115 - 107}{50} \times 10$

$= 40 + \frac{8}{50} \times 10$

$= 40 + 1.6 = 41.6$

Median age = 41.6 years

Q:9. From the following data, determine the mode by grouping method:

Size	4	5	6	7	8	9	10
Frequency	6	5	7	2	3	7	3

Answer: Grouping Table for the Estimation of Mode

Size	I Frequency	II (1+2)	III (2+3)	IV (1+2+3)	V (2+3+4)	VI (3+4+5)
4	6					
5	5	6+5=11		6+5+7=18		
6	7		5+7=12		5+7+2=14	
7	2	7+2=9				7+2+3=12
8	3		2+3=5	2+3+7=12		
9	7	3+7=10			3+7+3=13	
10	3		7+3=10			

Analysis Table

Column	Size of Items containing Maximum Frequency						
	4	5	6	7	8	9	10
I			✓			✓	
II	✓	✓					
III		✓	✓				
IV	✓	✓	✓				
V		✓	✓	✓			
VI			✓	✓	✓		
Total	2	4	5	2	1	1	—

It is clear from the Analysis Table that the size 6 occurs the maximum number of times, i.e., 5 times
Thus, the mode (Z) = 6

Q:10. Calculate mode from the following data:

Class Interval	10-14	15-19	20-24	25-29	30-34	35-39	40-44
Frequency	5	15	28	24	17	10	1

Answer : Since we are given inclusive class intervals, we first convert it into exclusive series as under:

Class Interval	Frequency
9.5-14.5	5
14.5-19.5	15(f_0)
19.5-24.5 (l_1)	28(f_1)
24.5-29.5	24(f_2)
29.5-34.5	17
34.5-39.5	10
39.5-44.5	1

A glance at the above table reveals that modal class is 19.5-24.5. The actual value of mode is,

$Z = \iota_1 + \frac{f_1 - f_0}{2f_1 - f_0 - f_2} \times i$

$= 19.5 + \frac{28-15}{2(28)-15-24} \times 5$

$= 19.5 + \frac{13}{56-3} \times 5$

$= 19.5 + \frac{13}{17} \times 5$

= 19.5+ 3.82 = 23.32

Mode = 23.32

Q:11. Locate the median graphically from the following data:

Marks	70-80	80-90	90-100	100-110	110-120	120-130	130-140	140-150
Number of Students	44	120	80	76	50	45	25	10

Answer:

Firstly, we convert the given distribution into less than' and 'more than' cumulative frequencies distribution.

Less than Method		More than Method	
Marks	Cumulative Frequency	Marks	Cumulative Frequency
Less than 80	44	More than 70	450
Less than 90	164	More than 80	406
Less than 100	244	More than 90	286

Less than 110	320	More than 100	206
Less than 120	370	More than 110	130
Less than 130	415	More than 120	80
Less than 140	440	More than 130	35
Less than 150	450	More than 140	10
		More than 150	0

Method I:

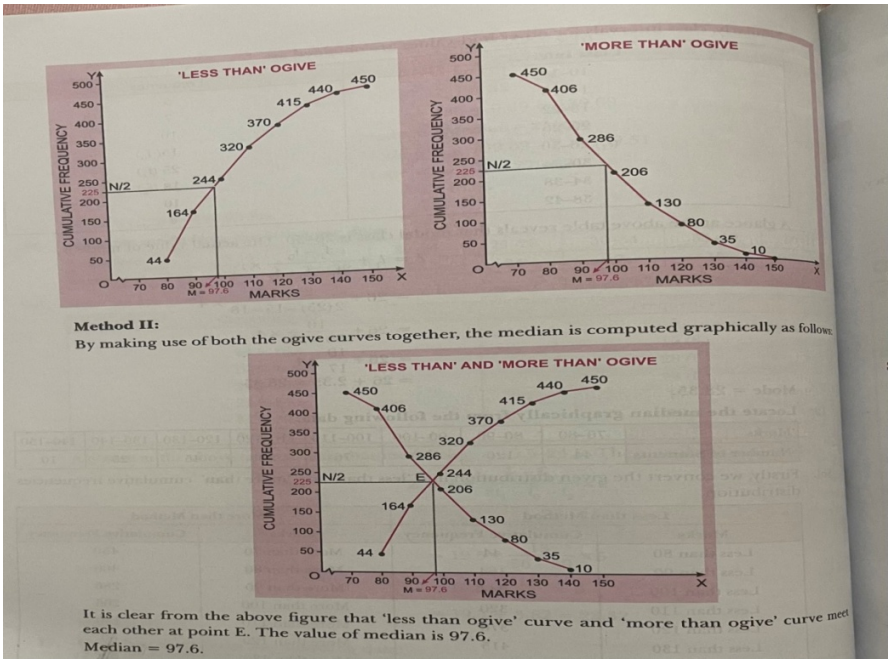
Using the 'less than ogive and 'more than ogive method, the median is computed graphically as follows:

M = Size of $\left(\frac{N}{2}\right)$ th item

= Size of $\left(\frac{450}{2}\right)$ th item

= Size of 225th item

It lies in the class 90-100.



Q:12. Calculate the correlation coefficient of the below listed data, using short-cut method:

X	10	20	30	40	50
Y	2	4	6	8	10

Answer:

X	Deviation (dx=X-A)	Square of Deviation	Y	Deviation (dy=Y-A)	Square of Deviation	Multiple of Deviation

	A=20	(dx^2)		A=4	(dy^2)	(dxdy)
10	-10	100	2	-2	4	20
20	0	0	4	0	0	0
30	10	100	6	2	4	20
40	20	400	8	4	16	80
50	30	900	10	6	36	10
N= 5	$\Sigma dx = 50$	$\Sigma dx^2 = 1500$	N=5	$\Sigma dy = 10$	$\Sigma dy^2 = 60$	$\Sigma dxdy = 300$

$$r = \frac{\Sigma dxdy - \frac{(\Sigma dx)\times(\Sigma dy)}{N}}{\sqrt{\Sigma dx^2 - \frac{(\Sigma dx)^2}{N}} \times \sqrt{\Sigma dy^2 - \frac{(\Sigma dy)^2}{N}}}$$

$$= \frac{300 - \frac{(50)\times(10)}{5}}{\sqrt{1500 \ \frac{(50)^2}{5}} \times \sqrt{60 \ \frac{(10)^2}{5}}}$$

$$= \frac{300-100}{\sqrt{1500-500} \times \sqrt{60-2}}$$

$$= \frac{200}{\sqrt{1000} \times \sqrt{40}} \qquad = \frac{200}{31.623 \times 6.324}$$

$$= \frac{200}{199.98} \qquad = 1 \text{ (approx.)}$$

Correlation coefficient (r) = 1

This is a situation of a perfectly positive correlation between X and Y.

Q:13. Ten students obtained the following marks in Economics and Statistics:

Economics	8	36	98	25	75	82	92	62	65	39
Statistics	84	51	91	60	68	62	86	58	35	49

Calculate the coefficient of rank correlation

Answer:

Economics (X)	Rank (R_1)	Statistics (Y)	Rank (R_2)	$D=R_1-R_2$	D^2
8	10	84	3	7	49
36	8	51	8	0	0
98	1	91	1	0	0
25	9	60	6	3	9
75	4	68	4	0	0
82	3	62	5	-2	4
92	2	86	2	0	0

62 65 39	6 5 7	58 35 49	7 10 9	-1 -5 -2	1 25 4
N=10					$\Sigma D^2=92$

$r_k = 1 - \frac{6\Sigma D^2}{N^3 - N}$

$= 1 - \frac{6X92}{(10)^3 - 10}$

$= 1 - \frac{552}{1000-10}$

$= 1 - \frac{552}{990}$

= 1-0.557 =0.443

Coefficient of rank correlation ($r_{k)} = 0.443$

Q:14. What is the importance of index numbers?

Answer : The importance of index numbers is highlighted through the following points:

- Index numbers enable us to measure the value of money during different periods of time and come up with solutions in order to correct inflationary or deflationary gaps in the system.
- Index numbers help ascertain the living standards of It indicates the changes in to people. the real income.
- Cost of living index is a useful guide to the government and private enterprises to make necessary adjustments in salaries and allowances of the workers.

PART B : INTRODUCTORY MICROECONOMICS

Unit 4. Introduction of Micro Economics

Q:1 What do you mean by Economics and what are its types.

Answer

1. Study of Economics is divided into two branches: (a) Micro economics (b) Macro economics
2. Micro economics studies the behaviour of individual economic units.Ex-Consumer equilibrium, producers equilibrium, product pricing, factor pricing etc.
3. Micro economics is also called price theory.
4. Macro economics studies the behavior of the economy as a whole.Ex- National income, aggregate demand, aggregate supply, general price level, Inflation etc.
5. Macro economics is also called theory of income and employment.

Q:2 What is an Economy ?

Answer: Economy is a system in which people earn a living to sastisfy their wants through process of production, consumption, investment and exchange.

Q:3 What is an economic problem and its causes

Answer: Economic problem is the problem of choice arising from use of limited means which have the alternative use for the satisfaction of various wants.

Cause of economic problems are : (a) Unlimited Human Wants (b) Limited Economic Resources (c) Alternative uses of Resources

Q:4 What are the central problems of an Economy ?

Answer: Central Problems on Economy:

What to Produce: Selection of good

How to produce: Selection of Technique

Whom to produce: Distribution of Income and Goods

Q:5 What do you mean by opportunity cost

Answer: For the selection of an opportunity, the sacrifice of next best alternative use is called opportunity cost. In other words, it is the amount of one commodity that is to be sacrificed to increase the production of other commodity.

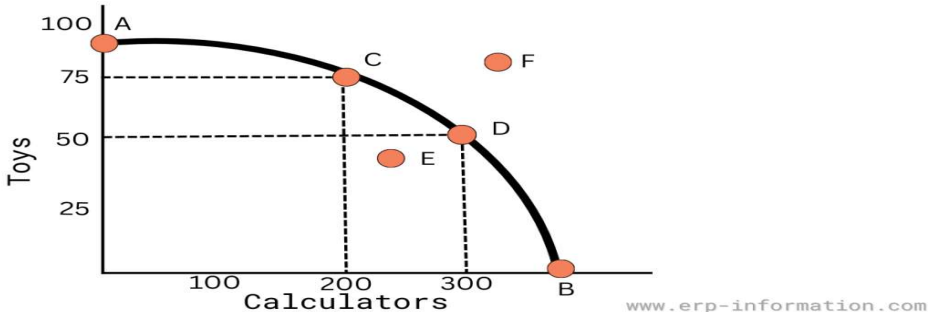
Q:6 What is Production Possibility Frontier and its features ?

Answer: Production possibility frontier or production possibility curve shows all possible combinations of two set of goods that an economy can produce with available resources and given technology, assuming that all resources are fully and efficiently utilized. Economizing of resources means utilisation of resources in best possible manner to maximize output.

Production Possibility Frontier or Curve Features:

a. Slopes downward from left to right because if production of one commodity is to be increased then production of other commodity has to be sacrificed as there is scarcity of resources.

b. Concave to the origin because of increasing marginal opportunity cost or (MRT)



Q: 7 What do you mean by Marginal Rate of Transformation.

Answer: MARGINAL RATE OF TRANSFORMATION: MRT is the ratio of units of one good sacrificed to produce one more unit of other good.

(Marginal= at the border or adjacent/next to/adjoining)

(Transformation= a change in form, shape appearance or size)

UNIT 5 CONSUMER EQUILIBRIUM AND DEMAND

Q:1 Define utility and what are types of Utility ?

Answer: Utility is the power or capacity of a commodity to satisfy human wants. Alternatively, utility of a commodity means the amount of satisfaction that a person gets from consumption of a good or service.

There are two types of Utility:

1. **Cardinal Utility Approach (Marginal Utility Analysis or Marshall Utility Analysis):** It states that the satisfaction the consumer derives by consuming goods and services can be measured with a number.

Cardinal utility is measured in terms of utils (the units on a scale of utility or satisfaction).

2. **Ordinal utility Approach:** It states that the satisfaction the consumer derives from the consumption of goods and services cannot be measured in numbers. Rather, ordinal utility uses a ranking system in which a rank is provided to the satisfaction that is derived from consumption.

Q:2 What do you mean by total utility and Marginal Utility

Answer: Total utility: is the total psychological satisfaction a consumer obtains from consuming a given amount of a particular good. Alternatively, total utility is the sum of marginal utilities obtained from consumption of successive units of a commodity. It is measured in utils. TU = MU1 + MU2 + MU3 + MUn

Marginal utility: is the additional utility derived from consumption of an additional unit of a commodity.

Q:3 What is law of Diminishing Marginal Utility ?

Answer: Law of diminishing marginal utility states that marginal utility derived from the consumption of a commodity declines as more units of that commodity are consumed.

Q:4 Explain graphically relationship between MU and TU .

Answer: Relationship between marginal utility and total utility:

When MU decreases, TU increases at a diminishing rate. (As shown in graph till consumption level OQ).

When MU is zero, TU is constant and maximum at P.

When MU is negative, TU starts diminishing.

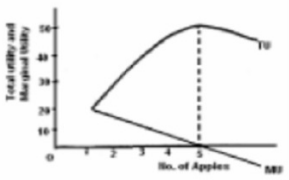
Tables

Total and Marginal utility schedule

Units of apple	Total utility	Marginal utility
1	20	20
2	35	15
3	45	10
4	50	5
5	50	0
6	45	-5
7	35	- 10

Figure:

Total and Marginal utility curves



Q:5 What is Indifference curve and its properties ?

Answer: Indifference Curve: This curve shows different combinations of two goods, each combination offering the same level of satisfaction to the consumer. So, that the consumer is indifferent among the various combinations offered to him.

Properties of Indifference Curve

(i)Indifference curves slope downwards from left to the right.

(ii)Indifference curve is always convex to the origin.

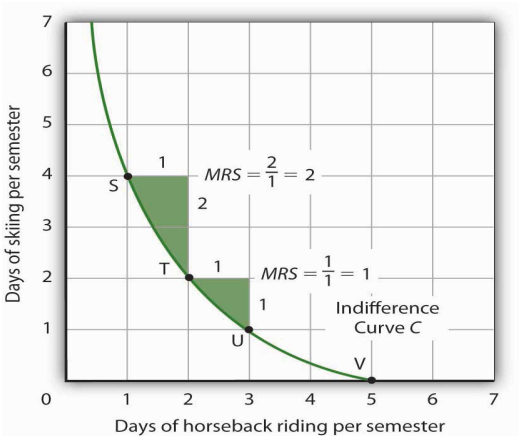
(iii) Indifference curves can never touch or intersect each other.

(iv)A higher indifference curve represents a higher level of satisfaction.

(v)Indifference curve cannot touch either axis.

Q:6 What is Marginal Rate of Substitution ?

Answer: Marginal Rate of Substitution Marginal Rate of Substitution refers to the rate at which the consumer is willing to sacrifice one good to obtain one more unit of the other good.



Q: 7 What do you mean by demand?

Answer: Demand is a quantity of a commodity which a consumer wishes to purchase at a given level of price and during a specified period of time. In other words, demand for a commodity refers to the desire to buy a commodity backed with sufficient purchasing power and the willingness to spend.

Q:8 What are the Factors Affecting Demand ?

Answer:

(i) Price of related goods - When the price of related goods of the substitute goods gains, the client may shift to use the alternate goods. For example, when the price of coffee gains, people may switch to purchasing more tea.

(ii) income - The income of the client affects the demand for goods and services in the market. When the income increases, they may demand more and more luxurious goods, and in case of a decrease in income, the clients may demand more and more basic goods.

(iii) preferences and tastes - Client likes and tastes also affect the demand for goods. The demand for a product rises when that certain product becomes famous. When more and more clients buy that product, then demand for that product rises.

Q: 9 What do you mean by substitute goods and Complementary Goods?

Answer: Substitute Goods: Substitute goods are those goods which can be used in place of another goods and give the same satisfaction to a consumer. Ex Tea and Coffee

Complementary Goods: Complementary goods are those which are useless in the absence of other goods and which are demanded jointly. Ex Pen and Refill

Q: 10 What is law of demand explain it with the graph?

Answer: Law of Demand: It states that price of the commodity and quantity demanded are inversely related to each other when other factors remain constant (ceteris Paribus).

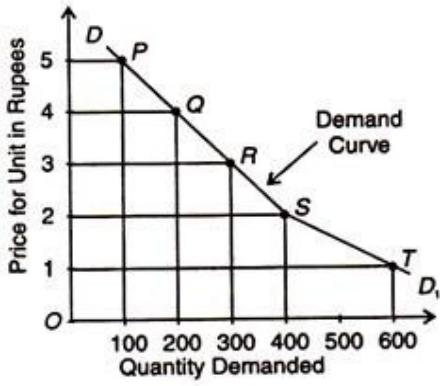


Fig. 7

Q: 11 Explain graphically Movement along the demand curve.

Or

What is expansion or contraction of demand? Explain graphically.

Answer: Movement along the demand curve: The change in quantity demanded due to the change in price of the commodity is known as movement along the demand curve.

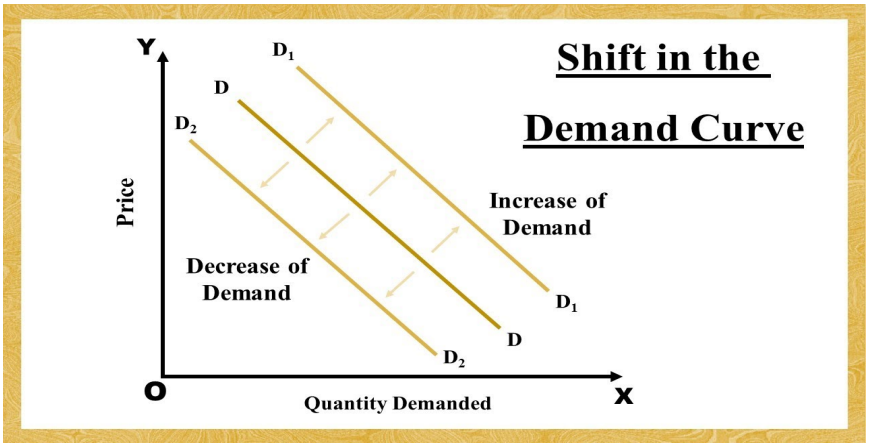
1. **Expansion in demand:** The rise in quantity demanded due to the fall in price of the commodity, is known as expansion in demand.

2**. Contraction in demand:** The fall in quantity demanded due to the rise in price of the commodity is known as contraction in demand.

Q: 12 What do you mean by shift in demand curve?

Answer:

Shift in demand curve: If demand changes due to the change in factors other than price, it is known as shift in demand curve.



Q: 13 What do you mean by elasticity of demand?

Answer: Elasticity of Demand: The degree of responsiveness of demand to the changes in determinants of demand (Price of the commodity, Income of a Consumer, Price of related commodity) is known as elasticity of Demand.

Q: 14 Explain price elasticity of demand and its type with the help of graph.

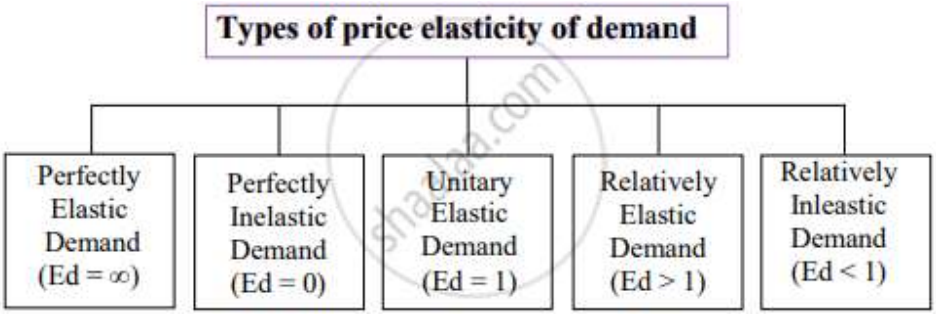
Answer: Price Elasticity of Demand:

(a) The degree of responsiveness of quantity demanded to changes in price of commodity is known as price elasticity of Demand.

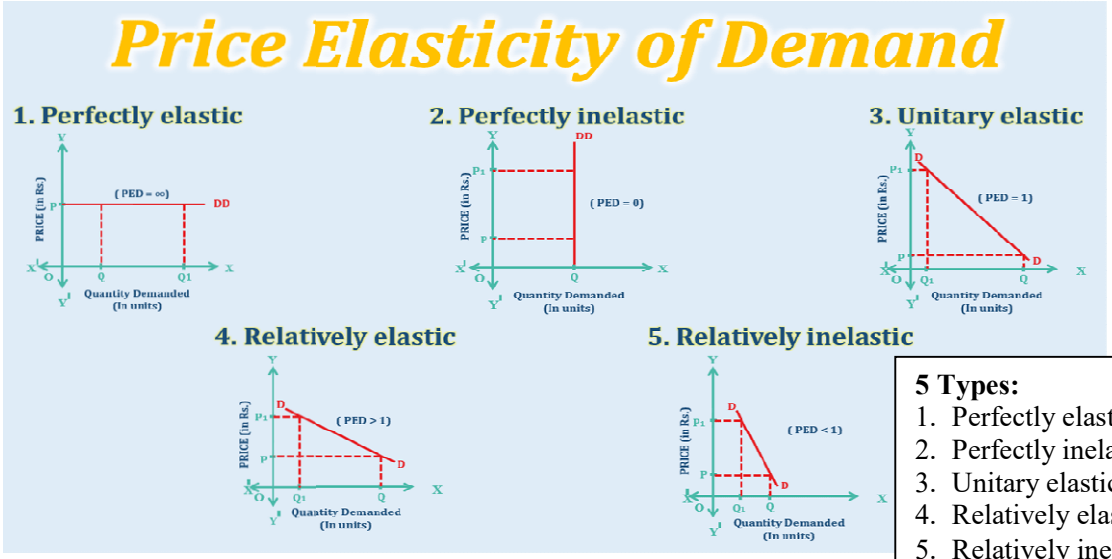
(b) It is a quantitative statement, i.e., it tells us the magnitude of the change in quantity demanded as a result of change in price.

Ed = % change in Quantity / % Change in Price

Types of Elasticity of Demand



Graphical Representation of Elasticity of Demand



Q: 15 What are the various factors which affects the price elasticity of demand?
Answer: Factors Determining Price Elasticity of Demand for a Good:
Nature of Commodity:
Necessities: Demand is inelastic because these goods are essential for survival, so demand remains stable despite price changes.
Luxuries: Demand is elastic because consumers significantly adjust their consumption based on price changes. The classification of a good as a luxury or necessity can vary based on income levels.
Availability of Substitutes:
Close Substitutes: Demand is elastic; small price increases lead consumers to switch to substitutes. For example, if Coke's price rises, consumers might switch to Pepsi.
No Close Substitutes: Demand is inelastic; price changes have less impact on consumption. For instance, salt has no close substitutes.
Income Level:
Higher Income Groups: Demand is less elastic as price changes have a smaller effect on their consumption.

Lower Income Groups: Demand is more elastic because price changes significantly impact their purchasing power.

UNIT 6: PRODUCER BEHAVIOUR AND SUPPLY

Q: 1 What do you mean by Production function?

Answer: Production function: The relationship between physical input and physical output of a firm is generally referred to as production function.

The general form of production function is,

$q = f(x_1, x_2)$ where, q = output, x_1 = 1 input like labour, x_2 = another input like machinery

Q: 2 What do you mean by Variable factors and Fixed Factors ?

Answer: Variable factors: It refers to those factors, which can be changed in the short run. They vary directly with the output. For example, Labour, raw material, etc.

Fixed factors: It refers to those factors which cannot be changed in the short run. They do not vary directly with the output. For example, Capital, land, plant and machinery, etc.

Q: 3 What do you mean by Short period and long period ?

Answer: Short period: It refers to the period of time in which a firm cannot change some of its factors like plant, machinery, building, etc. due to insufficiency of time but can change any variable factor like labour, raw material, etc.

Long period: It refers to a time period during which a firm can change all its factors of production including machines, building, organization, etc.

Q: 4 What is total product, Average product and Marginal Product.

Answer: Total product: It refers to total volume of goods and services produced by a firm with the given input during a specified period of time.

Average product: It is per unit product of variable factors. It is calculated by dividing the total Product by the units of variable factor.

Average Product=Total Product/Unit of Variable Factor

Marginal Product: It is an addition to the total product when an additional unit of a variable factor is employed.

MP=Change in output /Change in input $=\Delta Q / \Delta L$

Q: 5 What is return to a factor?

Answer: Return to a factor: It states that change in the total output of a good when only the quantity of one input is increased, while that of other input is kept constant.

Q: 6 Explain law of variable proportion graphically.

Answer: Law of variable proportion: It states that as we increase the quantity of only one input, keeping other inputs fixed, the total product increases at an increasing rate in the beginning, then increases at diminishing rate and after a level of output ultimately falls.

Concept

The Law of Variable Proportions states that as you increase the quantity of one input (while keeping other inputs fixed), there will be a point where the addition of this input yields progressively smaller increases in output. This principle highlights the relationship between inputs and output and is used to understand the efficiency of production processes.

Phases of the Law

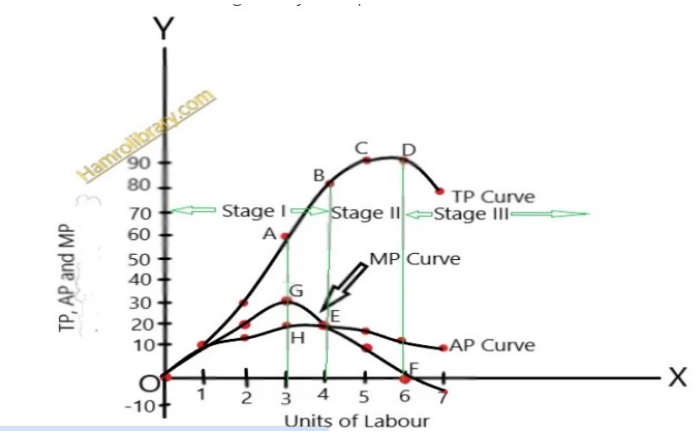
- **Increasing Returns to the Variable Input:**
  Description: When you start increasing the variable input (e.g., labor) while keeping other inputs (e.g., capital) fixed, the output initially increases at an increasing rate. This is because the additional input can effectively utilize the existing fixed inputs more efficiently.

Example: If you add more workers to a factory with a fixed number of machines, the production might initially increase at a faster rate because workers can better utilize the machines.

- **Diminishing Returns to the Variable Input:**
  Description: After a certain point, adding more of the variable input results in smaller increases in output. This occurs because the fixed inputs become increasingly overutilized or less effectively used by the additional variable inputs.
  Example: Continuing to add workers to the same number of machines might lead to overcrowding, where additional workers are less productive due to limited machines or space.
- **Negative Returns to the Variable Input:**
  Description: Eventually, if more of the variable input is added, it may lead to a decrease in total output. This happens when the input becomes too excessive relative to the fixed inputs, causing inefficiencies and disruptions.
  Example: If you add too many workers to a factory, they might get in each other's way, causing a reduction in overall production.

Graphical Representation

A typical graph illustrating the Law of Variable Proportions shows:
Total Product (TP): The total output produced.
Marginal Product (MP): The additional output resulting from an extra unit of input.
Average Product (AP): The output per unit of input.



The graph usually depicts:

- An increasing TP at an increasing rate initially.
- A peak point where TP increases at a decreasing rate.
- A decline in TP when the variable input becomes excessive.

Q: 7 What will be the marginal product when the total product is maximum?

Answer: Marginal Product will be zero when the total product is maximum.

Q: 8 What do you mean by production?

Answer: Production is the method of producing or developing goods or services in large quantities with the help of various materials.

Q: 9 Production function shows a technical relationship between physical input and output of a commodity.

(a) A technological relationship between inputs and cost
(b) The economic relationship between inputs and cost

(c) A technological relationship between inputs and output
(d) A technological relationship between inputs and price
Answer:
(c) A technological relationship between inputs and output

Q: 10 The shape of the Total Physical Product short run is

(a) Inverse U-Shaped
(b) U-Shaped
(c) Hyperbola
(d) V-Shaped
Answer:
(a) Inverse U-Shaped

Q: 11 In the short run Total Product Price changes with the change in which of the following factors.

(a) Economic Cost
(b) Fixed Cost
(c) All the factors
(d) Variable Cost
Answer:
(d) Variable Cost

Q: 12. Define cost concept. What are the different types of cost?

Answer: The spending experienced on different inputs is known as the cost. The different types of cost are as follows:
Money Cost- Total money spent by a company for manufacturing goods.
Explicit Cost & Implicit Cost- Payments made to an outsider are explicit and cost of self-supplied inputs is implicit cost.
Real Cost- All hard work, discomforts, sacrifices involved in manufacturing a product is called real cost.
Opportunity Cost- The cost for the next best alternative foregone.
Short Run Cost- Fixed cost- Fixed factors cost
Variable Cost – Variable factor cost

Q: 13 Explain the relation between Average Cost and Marginal Cost.

Answer: The relation between Average Cost and Marginal Cost
1. When Average Cost decreases, Marginal Cost declines faster than the Average Cost. So, that Marginal Cost curve remains lower than the Average Cost curve.
This means Average Cost >Marginal Cost.
2. When Average Cost increases, Marginal Cost rises faster than the Average Cost. So, that MC curve is above the Average Cost curve.
3. Marginal Cost curve intersects Average Cost curve from its lowest point. When the average curve is minimum then Marginal Cost=Average Cost.

Q: 14 When TVC is zero at zero levels of output, what happens to TFC or why TFC is not zero at zero level of output?

Answer: When TVC is zero at zero levels of output, what happens to TFC or why TFC is not zero at zero levels of output because the fixed cost is to be acquired even at zero levels of output.

UNIT 7 FORMS OF MARKET AND PRICE DETERMINATION

Q: 1. What is the break-even price?

Answer: The break-even price is the cost at which a company earns a normal profit (Price=AC). In the long run, the break-even price can be described as P=AR=MC.

Q: 2. When AR=Rs.10 and AC=Rs. 8, the firm makes?

(a) Gross Profit
(b) Normal Profit
(c) Net Profit
(d) Supernormal Profit

Answer:

(d) Supernormal Profit

Q: 3 Define perfect competition.

Answer:

Perfect competition is a market where a large number of buyers and sellers sell a similar product at the same price.

Q: 4 Explain the implication of free entry and free exit of a firm in the perfect competition market.

Answer:

The implication of free entry and free exit of a firm in the perfect competition market is that in this market structure, no company earns an unusual profit. Each company just earns a normal profit.

Q: 5 Under perfect competition, the cost lies below the average cost curve; the company would

(a) Incur losses
(b) Make an unusual profit
(c) Make normal profits
(d) Profit cannot be determined

Answer:

(a) Incur losses

Q: 6 When a firm's Total Revenue =Total Cost, it cannot cover its normal profit

(a) False
(b) True
(c) Can't say
(d) None of these

Answer:

(a) False

Q: 7 What is the normal profit?

Answer: Normal profit is referred to as the minimum or least amount of profit which is required to keep an organization engaged in the production process for the long run.

Q: 8 In perfect competition, when the marginal revenue and marginal cost are equal, profit is?

(a) Zero
(b) Average
(c) Maximum
(d) Negative

Answer:

(c) Maximum

Q: 9. In perfect competition, a company earns an abnormal profit when average revenue exceeds the ……..?

(a) Total revenue
(b) Average cost
(c) Total fixed cost
(d) Marginal revenue

Answer:

(b) Average cost

Q.10. Explain the effect of a 'price ceiling'.

Answer: The direct effect of a price ceiling may be termed as black marketing. It is a state, where the product under the government's authority is illegally sold at higher rates than the price fixed by the government. It might be possible when a buyer is willing to pay higher rates for the product than not to buy.

Q: 11. Under what market condition does Average Revenue always equal Marginal Revenue? Explain.

Answer: Under perfect competition Average Revenue i.e. price is equal to Marginal Revenue as under this form of market there are very large number of sellers who sells homogeneous product hence cannot influence the market price through its decisions as a result industry is price maker and each individual firms are price takers, which remains constant.

Q: 12. Explain the implications of a large number of buyers and sellers in a perfectly competitive market.

Or

Explain 'large number of buyers and sellers' features of a perfectly competitive market.

Answer. A perfectly competitive market is dominated by a very large number of buyers and sellers of a commodity which means that there is no such buyer or seller in the market whose purchase or sale is so large as to impact the total sale or purchase in the market. Each buyer/seller has only a fractional share in the market demand/market supply. Since, price is determined by the market forces of demand and supply, no individual buyer or seller has any control on it. Each buyer/seller has to accept the price as it is in the market.

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