ANANDALAYA
ANNUAL EXAMINATION
Class : XI

विद्या सर्वार्थ साधिका

Subject: Economics (030)　　　　　　　　　　　　　　　　　　　　　　　M.M : 80
Date　: 28-02-2025　　　　　　　　　　　　　　　　　　　　　　　　Time :　3 hours

General Instructions:
1. This question paper contains two sections:
　Section A – Statistics
　Section B – Micro Economics
2. This paper contains 20 Questions of 1 mark each.
3. This paper contains 4 Short Answer Questions of 3 marks each to be answered in 60 to 80 words.
4. This paper contains 6 Short Answer Questions of 4 marks each to be answered in 80 to 100 words.
5. This paper contains 4 Long Answer Questions of 6 marks each to be answered in 100 to 150 words.

SECTION A: STATISTICS

1. **Statement 1:** The value of index number for base period is always taken as 100. (1)

   Statement 2: The base year should be free from all sorts of abnormalities like wars, floods, earthquakes etc.
   (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.

2. If the sum of N observations is 1,260 and their mean is 36, then the value of N is _____. (1)
   (A) 35　　　　　　　(B) 40　　　　　　　(C) 30　　　　　　　(D) 25

3. Which one of the following is not a limitation of statistics? (1)
   (A) Statistical laws are true only on an average.
   (B) Statistics might lead to fallacious conclusions.
   (C) Statistics condenses mass data.
   (D) Statistics does not study individuals.

4. Maximum value of correlation coefficient is _____. (1)
   (A) 0　　　　　　　(B) 1　　　　　(C) 10　　　　　　　(D) 100

5. In case of _____ correlation, two variables move in the opposite direction. (1)
   (A) negative　　　　　　　　　　　　(B) positive
   (C) no　　　　　　　　　　　　　　(D) zero

6. The following diagram depicts _____ correlation between x and y. (1)
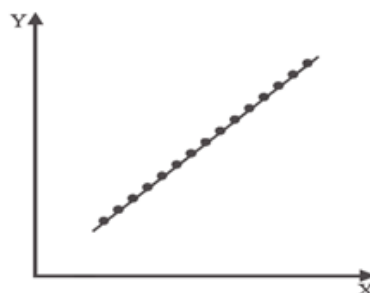
   (A) Perfect positive　　　　　　　　　(B) Perfect negative
   (C) Negative　　　　　　　　　　　　(D) Zero

7. Which of the following is an incorrect statement? (1)
   (A) Percentiles divide the distribution into hundred equal parts.
   (B) Mode is that positional value which divides the distribution into two equal parts.
   (C) Arithmetic mean is the most commonly used measure of central tendency.
   (D) Median is not affected by presence of extreme values.

8. _____ are helpful in wage negotiation, formulation of income policy, price policy, (1)
   taxation and general economic policy formulation.
   (A) Human development index   (B) Sensex
   (C) Consumer price index   (D) Index of industrial production

9. For the observations 5, 3, 6, 3, 5, 10, 7, 2 there are _____ modes. (1)
   (A) 7   (B) 2   (C) 6   (D) 4

10. Read the given data about the monthly salary of some families in a society and answer the (1)
    question that follows:

Monthly Salary (₹ in thousand)	Number of Families
10-20	6
20-30	9
30-40	12
40-50	17
50-60	11
60-70	5

How many families earn ₹ 50,000 or more in a month?

11. Given the following data and assuming 2012 as the base year, construct an index number for the (3)
    year 2023 using Simple Aggregative Method.

Commodity	Milk	Wheat	Rice	Sugar	Firewood
Price in 2012 (₹)	50	40	10	5	2
Price in 2023 (₹)	80	60	20	10	6

12. Following are the marks obtained by 25 students in Statistics. Prepare an exclusive frequency (3)
    distribution by taking a class interval of 4 and lower limit of the first class as 0.

5	6	8	10	11	13	6	8	5	13	8	10	3
18	6	8	5	16	11	8	5	8	5	8	6	

13. In the following frequency distribution, the frequency of the class interval 50-60 is not known. (4)
    Find it out, if the arithmetic mean of the distribution is 52.

Marks	10-20	20-30	30-40	40-50	50-60	60-70	70-80
Number of students	5	3	4	7	?	6	13

14. Locate median from the following frequency distribution. (4)
(A)

X	5	10	15	20	25	30	35	40
F	7	14	18	36	51	54	52	20

OR

(B) Calculate the Consumer Price Index (CPI) number from the following data and interpret the
    results.

Items	Weightage	Price in 2020 (₹)	Price in 2010 (₹)
Food	35	1500	1400
Fuel	10	250	200
Cloth	20	750	500
Rent	15	300	200
Miscellaneous	20	400	250

15. (I) Ogives are helpful in locating graphically _____, while data represented through a (1)
histogram can help in finding graphically _____.

(II) Distinguish between random sampling and non-random sampling. (1)

(III) 'Non sampling errors are more serious than sampling errors.' Defend or refute the given (2)
statement.

16. Read the following text carefully:

Data presentation is the process of organizing, summarizing, and displaying data in a clear and meaningful way to facilitate understanding and analysis. It helps in identifying patterns, trends, and relationships within data, making it easier for decision-makers to interpret information. There are generally three forms of presentation of data i.e. textual presentation, tabular presentation and diagrammatic presentation, each suited for different types of data and purposes. Each method serves a unique purpose in data analysis and decision-making:

1. **Textual Presentation** – This method uses written descriptions to explain data, making it useful for summarizing findings, providing context, and offering detailed explanations. It is essential in reports, research papers, and narratives where interpretation and analysis are required.
2. **Tabular Presentation** – In tabular presentation, data is systematically organized into rows and columns, forming a table. Tables are widely used in research, business, and economics for presenting numerical data in a structured format, ensuring clarity and precision.
3. **Diagrammatic Presentation** – Graphs, charts, and diagrams provide a visual representation of data, making complex information easier to understand at a glance. This method is useful for spotting trends, making comparisons, and engaging audiences in presentations and reports. Each diagram or graph is used for different purposes. For example, bar charts and pie charts are useful for comparing categories, while arithmetic line graphs effectively show trends over time.

Good data presentation enhances communication, improves clarity, and aids in making informed decisions in fields such as business, economics, science, and social research.

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

(I) Which graph helps in effectively depicting the trends over time? (1)

(II) 'In tabular presentation, data is systematically organized into rows and columns, forming a (2)
table.' State any four essential parts of a good statistical table.

(III) Differentiate between Histogram and Bar Diagram. (3)

17. Calculate Spearman's Rank correlation coefficient from the following data: (6)
(A)

X	40	50	60	60	80	50	70	60
Y	80	120	160	170	130	200	210	130

OR

(B) Calculate the Karl Pearson's coefficient of correlation from the following data:

X	10	12	15	23	20
Y	14	17	23	25	21

SECTION B – MICRO ECONOMICS

18. When 8% decrease in price of a commodity causes 2 % increase in expenditure of the (1)
commodity, the elasticity of demand is _____.
(A) zero   (B) greater than one
(C) less than one   (D) unity

19. Which of the following changes will take place in the budget line due to an increase in income of the consumer? (1)

(A)   (B)   (C)   (D)
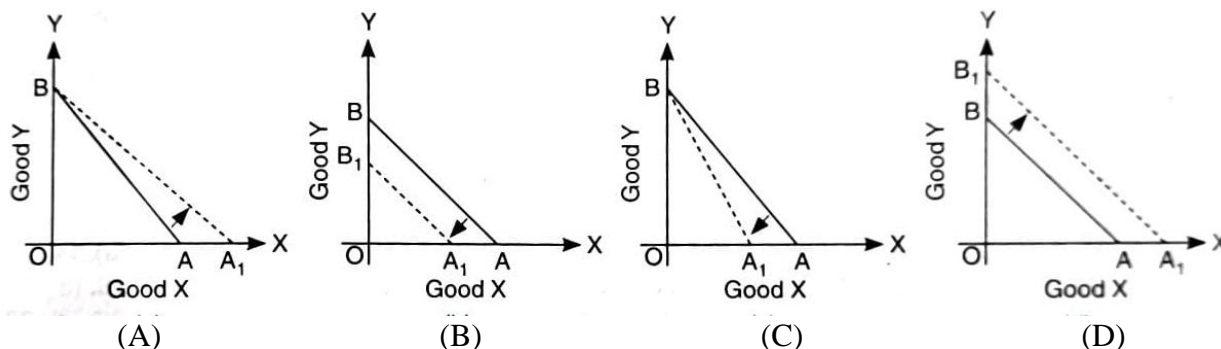
20 **Statement 1:** When equilibrium price of a good is less than its market price, there will be competition among the sellers. (1)
    Statement 2: Price Floor refers to fixing the maximum price of a commodity at a level lower than the equilibrium price.
    (A) Statement 1 is true and statement 2 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

21. Which of the following is an example of a Positive Economics Statement? (1)
    (A) India should take steps to control rising prices.
    (B) There are inequalities of income in our country.
    (C) India should not be an overpopulated country.
    (D) Income inequalities should be reduced.

22. Producer's equilibrium under MR-MC approach is achieved when _____. (1)
    (A) MR = MC
    (B) MC > MR after the equality between MR and MC
    (C) MR< MC
    (D) Both A and B

23. Slope of an indifference curve is measured by _____. (1)
    (A) Marginal Rate of Substitution   (B) Marginal Rate of Transformation
    (C) Marginal Opportunity Cost   (D) Market Rate of Exchange

24. Which of the following does not cause shift of the supply curve of a good? (1)
    (A) Price of input   (B) Price of the good
    (C) Goods and Services Tax   (D) Subsidy

25. There will be_____ in the demand curve of cars with an increase in the price of petrol. (1)
    (A) rightward shift   (B) upward movement
    (C) leftward shift   (D) downward movement

26. When production is zero, total cost will be _____. (1)
    (A) zero   (B) equal to variable cost
    (C) equal to fixed cost   (D) equal to marginal cost

27. When supply falls due to factors other than own price of the commodity, it indicates _____. (1)
    (A) Contraction in Supply   (B) Decrease in Supply
    (C) Expansion in Supply   (D) Increase in supply

28. Explain the implication of 'homogeneous product' feature of perfect competition. (3)

29. (I) A bank employee has job offers from two other banks. Axis Bank offers a salary of ₹ 50,000 (1)
    per month and Indian Overseas Bank offers a salary of ₹ 60,000 per month. If he presently
    draws a salary of ₹ 70,000 in State Bank of India, what is his opportunity cost of working in
    State Bank of India?
    (II) Assuming that no resource is equally efficient in production of all goods, name the curve (2)
    which shows production potential of the economy. Also state its properties.

30. The market for a good is in equilibrium. A severe drought results in a drastic fall in the output of (4)
    wheat. Explain, using a diagram, how will it affect the equilibrium price and equilibrium
    quantity, keeping other factors constant?

31. A jeweller sells three rings at a price of ₹ 12,000 per ring. If he sells 4th ring, his marginal (4)
(A) revenue of 4th ring will be ₹ 10,500. Find the average revenue of selling the 4th ring.

OR

(B) Explain the relationship between Total Product and Marginal Product using a diagram.

32. From the following data, calculate the elasticity of demand, when price changes from ₹ 5 to ₹ 6. (4)
    Also, express your opinion regarding the degree of elasticity of demand.

Price (₹)	Quantity Demanded (units)
5	100
6	75
8	50

33. Read the following newspaper article carefully.
    India's lab-grown diamonds may be 'value for money,' but natural diamonds won't lose their
    sparkle.
    Demand for lab-grown diamonds in India has grown steadily, but naturally mined diamonds
    won't be losing their sparkle any time soon, industry experts say.
    India currently has the world's largest youth population. More and more millennial and Gen Z
    shoppers have been captivated by the so-called LGDs because of their price point, analysts told
    CNBC.
    The price of a lab-grown diamond can be five times cheaper than a natural diamond, but they are
    both chemically identical.
    According to Limelight Diamonds, one of India's largest LGD jewelry brands, a natural diamond
    is priced at around $6,000 per carat while its LGD counterpart is just $1,200. Both are also
    graded based on the 4Cs — clarity, color, cut and carat — the widely accepted standard
    characteristics to determine a diamond's value and quality. Sales of LGDs have skyrocketed as
    buyers in India who were previously unable to purchase diamonds due to their high cost now feel
    they can enter the market.
    "Previously, less than 5% of Indian women were able to afford natural diamonds," said Pooja
    Sheth, founder and managing director of Limelight Lab Grown Diamonds. "But consumers are
    feeling it's more value for money to purchase a lab grown diamond and there is a huge amount of
    incremental demand from new purchases who have never bought a diamond before," she
    commented. India is currently the second-largest lab-grown diamond producer, behind
    China which accounts for at least half the world's production. "It's about opening up an entire
    segment of Indian audiences that have not been able to purchase diamonds before."
    Despite much optimism, LGD buyers still view the jewel as an entry point to the diamond market
    and will most likely purchase natural diamonds when they have a more purchasing power in
    future, analysts told CNBC.
    "Lab-grown diamonds are now the talk of the day. But If you have enough money floating
    around, you'll essentially buy a naturally mined diamond," said Tehmasp Printer, CEO of the
    International Gemological Institute.

"If you have a Toyota, you'll want to buy a lower end BMW after before you finally get a [Mercedes-Benz] S-Class. It's a question of upgrade." Paul Zimnisky, CEO of Paul Zimnisky Diamond Analytics, agreed. "Man-made diamonds represent around 20% of the total industry in the value sold. It was basically zero 10 years ago, so it has been growing rapidly on a relative basis," he said.

Source: https://www.cnbc.com/2023/12/22/indias-lgds-are-cheaper-but-natural-diamonds-will-still-be-in-demand.html

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

(I) "More and more millennial and Gen Z shoppers have been captivated by the so-called LGDs because of their price point." (1)

   Using the above example, explain how price is an important factor affecting demand.

(II) "If you have enough money floating around, you'll essentially buy a naturally mined diamond." (1)

   People demand some goods due to the prestige they confer upon the possessor. In the long run, natural diamonds are one such example which are demanded by consumers due to its high price. In the light of the above statement, identify the exception to the 'Law of Demand' discussed above.

(III) Natural diamonds and Lab grown diamonds are _____ goods. (1)

   (A) complimentary   (B) substitute   (C) jointly demanded   (D) inferior.

(IV) An increase in the real income of a consumer induces him to buy more of a commodity whose prices have fallen. This is known as _____ effect. (1)

   (A) Inducement   (B) Substitution   (C) Income   (D) Utility

(V) Suppose prices of the lab grown diamonds are expected to fall in the near future. Explain using a diagram, what impact will it have on the demand curve of lab gown diamonds. (2)

34. (I) When price of a good rises from ₹ 8 per unit to ₹ 10 per unit, producer supplies 40 units more. Price elasticity of supply is ₹ 2. What is the quantity supplied before the price change? (3)

   (II) Complete the following table: (3)

Output (units)	Total Variable Cost (₹)	Average Variable Cost (₹)	Marginal Cost (₹)
1	____	12	12
2	20	____	____
3	____	10	10
4	40	____	____