

CLASS XI
ANNUAL EXAMINATION (2024-2025)
ECONOMICS (030)
SET B1

Time Allowed: 3 hours

Max. Marks: 80

General Instructions:

1. *This question paper contains two sections –
Section A – Statistics for Economics
Section B – Introductory Microeconomics*
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 60-80 words.*
4. *This paper contains 6 short answer questions of 4 marks each to be answered in 80-100 words.*
5. *This paper contains 4 long answer questions of 6 marks each to be answered in 100-150 words.*

SECTION A – STATISTICS FOR ECONOMICS (40 marks)

Q1. Read the following statements and choose the correct alternative from below: (1)

Assertion (A): Statistics is the science of estimates and probabilities.

Reason (R): Statistics is the method of decision-making in the face of certainty on the basis of numerical data and calculated risk.

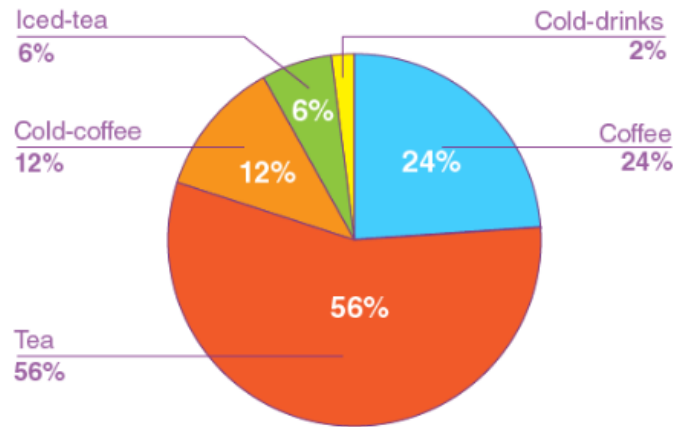
Alternatives:

- (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.

Q2. Which of the following statements about arithmetic mean is incorrect? (1)

- (a) The sum of deviations around mean is zero.
- (b) The sum of squares of deviations around mean is zero.
- (c) If 4 is added to all items in a data set, the mean will rise by 4.
- (d) None of the above

Q3. In summer, a survey was conducted among 400 people about their favourite beverages. The following pie chart shows the data. What is the sum of the central angles for iced tea and cold-drinks? (1)



Q4. State any one importance of statistics in economics. (1)

Q5. In a moderately skewed distribution, the median is 40 and the mean is 42. Using these values, find the approximate value of the mode. (1)

Q6. A scatter diagram with a narrow clustering of points close to a straight line indicates: (1)

- (a) Weak correlation
- (b) Strong correlation
- (c) No correlation
- (d) Positive correlation

Q7. A series where data is presented without arranging it in any order is known as: (1)

- (a) Primary data
- (b) Secondary data
- (c) Raw data
- (d) Discrete data

Q8. Define economic activities. Give an example. (1)

Q9. What is the mode in a data set? (1)

- (a) The lowest number in a data set
- (b) The number that occurs less frequently
- (c) The number that occurs most frequently
- (d) The highest number in a data set

Q10. Which of the following statements is false about correlation? (1)

- (a) It quantifies the degree of linear relationship between two variables.
- (b) It can be used to infer causation.
- (c) The value of correlation lies between -1 and +1.
- (d) A high correlation does not necessarily imply a causal relationship.

Q11. Write short notes on **any two**:

(1½ * 2 = 3)

- (a) External data
- (b) Census of India
- (c) NSSO

Q12. Organize the following data into a continuous frequency distribution with classes 20-29, 30-39 and so on. Also, what percentage of the data lies in the range 40-59? (3)

45, 32, 55, 63, 42, 27, 51, 39, 33, 49,
62, 28, 53, 40, 58, 60, 65, 50, 36, 47,
57, 44, 52, 41, 29, 34, 48, 56, 38, 43

Q13. Calculate Laspeyre's and Paasche's price index numbers on the basis of the following data: (4)

Commodities	A	B	C	D	E
Base year prices	10	25	30	15	20
Current year prices	15	40	45	30	25
Base year quantities	6	10	15	20	8
Current year quantities	8	20	12	15	6

Q14. Answer the following questions:

- (a) The average income of 90 families is Rs. 6,200. Out of these, the average income of 30 families is Rs. 4,000. Find out the average income of the remaining families. (2)
- (b) The average of five consecutive numbers is 20. What is the sum of the first and the last number in the series? (2)

OR

Answer the following questions:

- (a) Three numbers have a mean of 64. When a fourth number is included, the mean becomes two times of the original mean. What is the fourth number? (2)
- (b) When 5 is added to a set of three numbers, the mean of these four numbers increases to 4.6. What was the mean of the original three numbers? (2)

Q15. ***Read the following case study about the salary structure of employees at XYZ Corporation and construct a frequency polygon using a histogram to present this data.*** (4)

XYZ Corporation has recently conducted an internal analysis to better understand the salary distribution among its employees. The company is keen to examine the income spread across various salary ranges to evaluate the compensation structure. To do so, the HR department has gathered data on the number of employees in each salary bracket.

The data shows that there are 10 employees earning more than Rs. 10,000 but less than Rs. 20,000 per month. In the next salary bracket, between Rs. 20,000 and Rs. 30,000, 15 employees are represented. The largest group of employees, totaling 25 individuals, earns between Rs. 30,000 and Rs. 40,000. Following that, 20 employees make between Rs. 40,000

and Rs. 50,000, while only 10 employees earn between Rs. 50,000 and Rs. 60,000. Finally, there are 5 employees whose monthly earnings are between Rs. 60,000 and Rs. 70,000.

Q16. Compute the rank correlation coefficient for the following data of the marks obtained by 8 students in the Commerce and Mathematics. (6)

Marks in Commerce	15	20	28	12	40	60	20	80
Marks in Mathematics	40	30	50	30	20	10	30	60

Q17. Calculate the mean marks of the following data using step-deviation method: (6)

Marks (less than)	55	60	65	70	75	80	85	90
No. of students	5	25	35	45	54	60	72	80

OR

Calculate the mode of the following data using grouping method: (6)

Marks (more than)	0	5	10	15	20	25	30	35
No. of students	116	111	99	73	60	36	15	4

SECTION B – INTRODUCTORY MICROECONOMICS (40 marks)

Q18. Read the following statements and choose the correct alternative from below: (1)

Assertion (A): A consumer's budget line shifts outward when their income increases, keeping the prices of goods constant.

Reason (R): The slope of the budget line depends on the ratio of the prices of the two goods.

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.

Q19. When marginal revenue is constant and positive, what can you say about the behaviour of total revenue? (1)

- (a) No change
- (b) Increasing at an increasing rate
- (c) Increasing at a diminishing rate
- (d) Increasing at a constant rate

Q20. What is the implication of freedom of movement of firms in a perfectly competitive industry? (1)

- (a) Uniform prices
- (b) Normal profits in the long run
- (c) Homogeneous product
- (d) Uniform cost structure

Q21. Define opportunity cost. (1)

Q22. Read the following statements and answer the questions that follow: (1)

Statement 1: Total utility increases at a decreasing rate as more units of a good are consumed.

Statement 2: Marginal utility becomes negative when total utility starts decreasing.

Alternatives:

- (a) Both statements are true.
- (b) Both statements are false.
- (c) Statement 1 is true, but Statement 2 is false.
- (d) Statement 1 is false, but Statement 2 is true.

Q23. When price of Good M rises, demand for Good N rises. What is the relation between these goods? (1)

- (a) Substitute goods
- (b) Complementary goods
- (c) Unrelated goods
- (d) Giffen goods

Q24. When a firm sells 50 units of a commodity, it earns a revenue of Rs. 2000. When it sells 55 units, its revenue rises by 25%. Calculate the marginal revenue of selling the 55th unit. (1)

Q25. Average revenue and price are always equal under: (1)

- (a) Monopoly
- (b) Perfect competition
- (c) Oligopoly
- (d) All market forms

Q26. Production possibility frontier is _____ (*convex, concave*) due to _____. (1)

Q27. Which of the following measures of elasticity shows elastic supply? (1)

- (a) 0
- (b) 0.5
- (c) 1.0
- (d) 1.5

Q28. Using graph, explain the relationship between average cost, average variable cost and marginal cost. (3)

Q29. With limited resources, an economy's government must decide between using technology for higher productivity or employing more workers. What economic problem does this represent, and what factors influence this decision? (3)

OR

An economy can shift resources between two goods, but increasing the production of one good leads to larger and larger reductions in the other. Identify the curve used to depict this situation. Also, write down any two properties of the curve. (3)

Q30. Answer the following questions:

- (a) State the law of variable proportions. (1)
- (b) Illustrate the stages of the law with the help of a graph. (1)
- (c) Which stage would a profit-maximizing producer prefer, and why? (2)

OR

Answer the following questions:

- (a) Differentiate between short run and long run. (2)
- (b) List any two reasons leading to increasing returns to a factor. (2)

Q31. ***Read the following case study and answer the questions that follow.***

Rivertown, a small town known for its cozy cafes, recently faced a shift in the price of coffee. The local supplier, Café Beans, decided to raise the price of its coffee by 15%. The owner, Mrs. Green, made this decision after noticing an increase in demand due to a new promotional campaign and expanding her supply chain. Her café had become a favorite hangout for the young professionals working in the tech park nearby.

At first, many customers continued to buy their regular coffee despite the higher price. However, after a few weeks, some regulars began to hesitate. A few of them, especially those who had been coming for years, started to explore other options, while others began brewing their coffee at home. Mrs. Green noticed that a number of her younger customers remained loyal, regardless of the price rise, citing their preference for Café Beans' unique blends. On the other hand, some of the older customers, who were mostly habitual coffee drinkers, began to consider more affordable alternatives offered by other shops.

Some people, who had always seen coffee as an essential part of their daily routine, continued purchasing without much thought, while others, now seeing it as more of a luxury, started cutting back. Mrs. Green also observed that some customers seemed less concerned about the price increase, while others, with more limited budgets, adjusted their purchasing behavior in response to the price change.

As Mrs. Green reflected on the situation, she started wondering about the different factors at play that influenced her customers' reactions to the price hike, and whether these factors would affect their willingness to buy coffee in the future.

- (a) Identify the concept that explains how the quantity demanded responds to changes in price, as depicted by the reactions of customers to the price increase at the café. (1)
- (b) What does the case study suggest about the effect of price changes on different customers? (1)
 - (i) All customers react the same way.
 - (ii) Price changes have no effect on consumer behavior.
 - (iii) Customer responses vary based on factors like income and necessity.
 - (iv) Higher prices always lead to reduced demand.
- (c) A product with a more elastic demand has a _____ (*steeper / flatter*) demand curve. (1)
- (d) Price of a commodity rises, as a result of which the total expenditure incurred by the consumer on it also rises. Its demand must be _____ (*elastic / inelastic*). (1)

Q32. Can there be a positive level of output that a profit-maximizing firm produces in a perfectly competitive market, at which market price is not equal to marginal cost? Justify your answer by considering the conditions for a producer's profit maximization and the nature of perfect competition. (4)

Q33. Answer the following questions:

- (a) Differentiate between expansion in demand and increase in demand. (3)
- (b) A consumer spends his income on two goods, X and Y. Explain his reaction when price of good X rises. How does he reach equilibrium? Use the cardinal utility approach. (3)

OR

Answer the following questions:

- (a) Differentiate between change in quantity demanded and change in demand. (3)
- (b) Define indifference curve. Why is a consumer's indifference curve downward sloping and convex to the origin? (3)

Q34. Answer the following questions:

- (a) Graphically illustrate the likely impact of the minimum wage policy legislation by the government on labour market. (2)
- (b) "*Discovery of natural gas in the international markets leads to a cut in the petrol prices.*" Explain the economic theory to analyze the impact of reduced petrol prices for cars on the *cycle market* in equilibrium. Use diagram. (4)