B.K. BIRLA CENTRE FOR EDUCATION

SARALA BIRLA GROUP OF SCHOOLS
A CBSE DAY-CUM-BOYS' RESIDENTIAL SCHOOL

Class: XI **Duration: 3 Hrs**
Date: 23/02/2026 **ECONOMICS** **Max. Marks: 80**
Admission No: **SET - I** **Exam No.**

STATISTICS

1. (a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A) 1)

2. A. I and III 1)

3. c) Zero 1)

4. a) 12 1)

5. (b) Statement 1 is false and statement 2 is true 1)

6. (a)Half the sum of upper-class limit and lower-class limit 1)

7. (d) Reactions of respondent cannot be watched 1)

8. (d) Spatial classification 1)

9. a. Stubs 1)

10. a) Percentage 1)

11. "Statistics is an indispensable tool for economists." 3)
Justify this statement with at least three suitable reasons.
Three reasons:
i. Formulation of economic laws and policies.
ii. Helps in understanding and solving economic problems.
iii. Forecasting economic trends.
Or any other reasons

12. N=116 Sum: 3)

Mean = $A + \frac{\Sigma fd}{\Sigma f} X\ i$

$= 9 + \frac{(-19) \times 2}{58}$

$= 9 - 0.32 = 8.68$

= 8.68 Answer OR

Size	Frequency	C.F
10-20	42	42
20-30	25	67
30-40	58	125
40-50	40	165

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

= 30 + 82.5 -67/58 x 10

= 30 + 15.5 x 10/58

= 30 + 2.67

= 32.67 Median

13. 4)

OR

X	Y	R_1	R_2	$D= R_1 - R_2$	D^2
90	18	1	8	-7	49
88	25	2	7	-5	25
78	30	3.5	5	-1.5	2.25
78	30	3.5	5	-1.5	2.25
74	30	5	5	0	0
70	42	6	2	4	16
65	38	7	3	4	16
62	47	8	1	7	49
				$\sum D=0$	$\sum D^2=159.5$

Rk= $1 - 6(\sum D2 + 1\ 12\ (m3-m) + 1\ 12\ (m3-m))\ N3-N$

= 1- 6(159.5+.5+2) 512−8

= 1-1.93 =-0.93 Answer

14. The mode lies in class 20-25 4)

Mode = $l_1 + f1 - fo/2f1 - f0 - f2 \times i$

$= 20 + \frac{16-7}{2\ x\ 16-7-12} \times 5$

= 20 + 9/13 x 5

= 20 + 3.46

= 23.46 Answer mode

15. 1. Laspeyres Price Index (LPI) 4)

Formula: Laspeyres Price Index=$\frac{\sum P0Q0}{\sum P1Q0} \times 100$

LPI=$\frac{190 \times 100}{232}$

= Laspeyres Price Index = 122.11

2. Paasche Price Index (PPI)

Paasche Price Index=$\frac{\sum P0Q1}{\sum P1Q1} \times 100$

PPI=$\frac{180 \times 100}{219}$

= 121.67

= Paasche Price Index = 121.67

OR

The major uses of index numbers are as follows:

1. **Measurement of Changes in Price Level**
   Index numbers such as the Consumer Price Index (CPI) and Wholesale Price Index (WPI) help in measuring inflation or deflation in an economy by showing changes in the general price level over time.
2. **Measurement of Cost of Living**
   Cost of Living Index helps in assessing changes in the purchasing power of money. It shows how much extra income is required to maintain the same standard of living over a period.
3. **Basis for Wage and Salary Adjustments**
   Index numbers are used to revise wages, salaries, and dearness allowance (DA) of workers and employees to compensate for rising prices.
4. **Measurement of Changes in Production and Output**
   Index numbers of industrial production and agricultural output help in measuring changes in the level of production in different sectors of the economy.

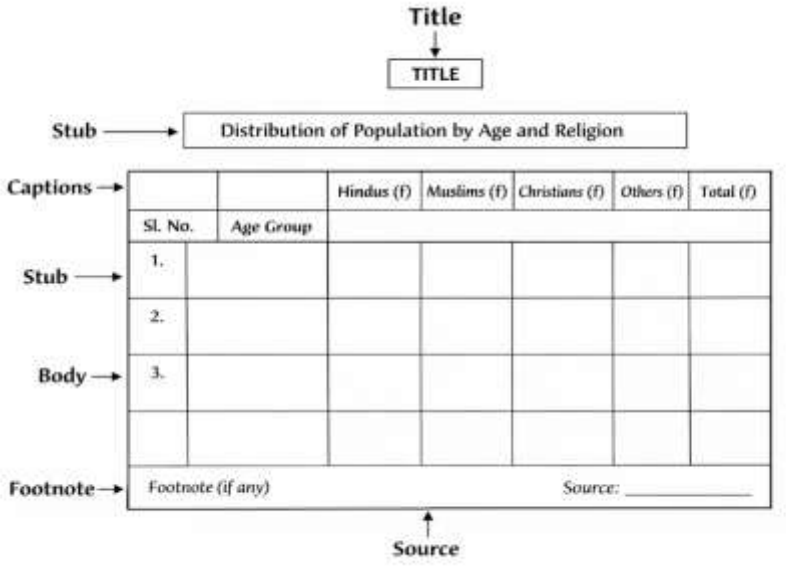
16. A. (i) Census Method 1)

(ii) 3)

- Census is ideal when the population is small and detailed information is required.
- Complete population is covered.
- More **time-consuming** and **expensive**.
- Usually **more accurate**, as it includes everyone.

- Sampling is preferred for large populations, limited resources, and quicker results.
- Only a part (sample) of the population is surveyed.
- **Less time-consuming** and **cost-effective**.
- Accuracy depends on the **sample size and selection method**.

B. 2)



OR

A. Principles of a Good Questionnaire 3)

While drafting a good questionnaire, the following principles should be followed:

1. **Clarity and simplicity**: Questions should be clear, precise, and easy to understand. Ambiguous or technical words should be avoided.
2. **Logical sequence**: Questions should be arranged in a logical order, starting from simple to more complex ones, to maintain the respondent's interest.
3. **Relevance and objectivity**: Questions should be strictly related to the purpose of the survey and should not be leading, biased, or suggestive

B. Difference between Random Sampling and Stratified Sampling 3)

Basis	Random Sampling	Stratified Sampling
Meaning	Each unit of the population has an equal chance of being selected.	The population is divided into homogeneous groups (strata) and samples are drawn from each group.
Nature of population	Suitable for homogeneous populations.	Suitable for heterogeneous populations.
Representation	May not ensure representation of all groups.	Ensures representation of all strata of the population.

17. A. Formula for Mean (Discrete Series) 3)

$\bar{x} = \bar{} = \sum fx / = \sum f$

Total frequency=5+7+12+f4+5+3=32+f4

$\sum$**fx**= (5·5) +(7·15) +(12·25) +(f4·35) +(5·45) +(3·55)

= ∑fx=25+105+300+35f4+225+165=820+35f4

$= 30 = \frac{820+35f4}{32+f4}$

$= f4 = \frac{140}{5} = 28$

= Missing frequency is = 28 Answer

B. Mean: $\frac{\sum fx}{\sum f}$ 3)

$\frac{750}{25} = 30$

Mean = 30

Calculation of Mode (Using Empirical Formula)

Mode=3(Median)−2(Mean)

Median = 30

Mean = 30

Mode=3(30) −2(30) =90 − 60=30 Answer

MICRO ECONOMICS

18. (a) Concave to the origin 1)

19. (b) I, II & III 1)

20. (b) 25 1)

21. (c) Both A and R are true and R explains A 1)

22. (b) A straight line showing various combinations of two goods that a consumer can buy with a given Income and given prices. 1)

23. (c). Rs. 18 per unit 1)

24. (b) A is false but R is true. 1)

25. (c) Akshat 1)

26. (d) iv 1)

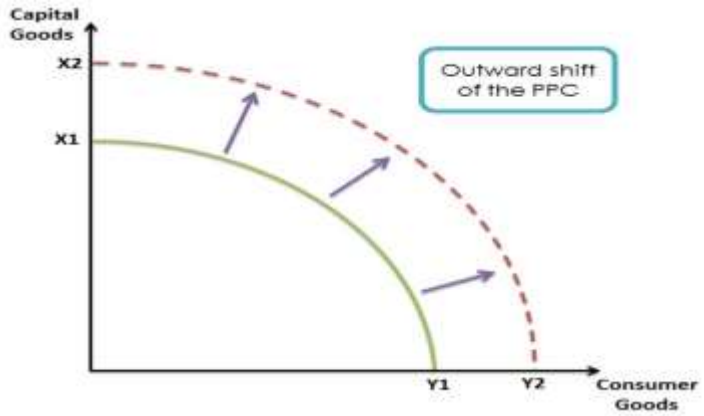
27. (c) Marginal Revenue 1)

28. The recently launched **"Vikash Mela"** by the Government of Odisha is meant to strengthen economic activities, support enterprises, and increase productive resources in the state. Although it is a specific programme, we can analyze its impact on the **Production Possibility Curve (PPC)** in economic terms. 3)

Impact of Vikash Mela on the Production Possibility Curve (PPC)

The **Production Possibility Curve** shows the maximum combinations of two goods (or types of output) that an **PPC shifts outward**

This means the economy can now produce **more of both goods** than before. economy can produce using all available resources efficiently.



OR

Marginal Opportunity Cost (MOC) of X

MOC of X = **Loss of Good Y / Gain of Good X**

Since X increases by **1 unit each time**, we look at how much Y is sacrificed.

Increase in X	**Loss of Y**	**MOC of X**
0 → 1	50 → 45 = 5	5
1 → 2	45 → 40 = 5	5
2 → 3	40 → 35 = 5	5
3 → 4	35 → 30 = 5	5
4 → 5	30 → 25 = 5	5

Marginal Opportunity Cost of X = 5 units of Y (constant)

29. **Why does the Government intervene in the market with a Ceiling Price?** **3)**

A **ceiling price** is the **maximum price fixed by the government**, below the equilibrium price, to **protect consumers**, especially the poor, from excessively high prices of essential goods like food grains, medicines, LPG, etc.

Effects of Ceiling Price

1. **Excess Demand (Shortage):**
   At a price lower than equilibrium, **quantity demanded exceeds quantity supplied**, leading to shortage in the market.
2. **Black Marketing:**
   Due to shortage, sellers may sell goods illegally at higher prices.
3. **Hoarding:**
   Traders may store goods to sell later at higher prices, worsening scarcity.

Remedial Measure

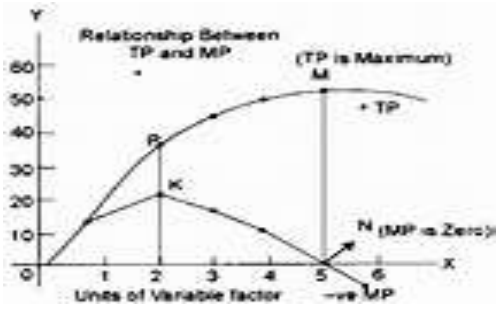
To overcome the problems of ceiling price, the government adopts **rationing through the Public Distribution System (PDS)**, ensuring **fair and equitable distribution** of essential commodities at controlled prices.

30. The **Law of Variable Proportions** states that when **more and more units of a variable factor (labour)** are employed with a **fixed factor (land)**, the **total product first increases at an increasing rate, then at a diminishing rate, and finally declines**. **4)**

A farmer experiences this law clearly in agricultural production because **land is fixed** while labour and capital can be varied.

Diagram Explanation

- Quantity of labour is measured on the **X-axis**.
- Total Product (TP) and Marginal Product (MP) are measured on the **Y-axis**.
- The **TP curve**:
  - First rises steeply,
  - Then rises slowly,
  - Finally falls.
- The **MP curve**:
  - First rises,
  - Then falls,
  - Cuts the X-axis and becomes negative in the third stage.



OR

A. Factors that determine the supply of a commodity: **2)**

The passage highlights the following factors affecting supply:

1. **Price of the commodity itself**
2. **Prices of related goods (competitive goods)**
3. **Expectations about future prices**

B. Effect of rise in price of soybean on supply of corn: **2)**

If the **price of soybean rises**, farmers will shift more land towards the **cultivation of soybean** because it becomes more profitable.
As a result, the **supply of corn will decrease**.

31. (A) Price rises from **Rs. 10 to Rs. 12** **2)**
→ % change in price = 12−10/10×100 = 20%

Quantity demanded **falls by 40%**

Price Elasticity of Demand (Ed)

Ed=% change in quantity demanded% change in price

Ed=% change in price% change in quantity demanded

Ed=40%20%=2

Since elasticity is **greater than 1**, the demand for good-X is **elastic**.

(B) **Given:** **2)**

- Prices: PX=3 PY = 3
- Marginal Rate of Substitution (MRS) = 3

Step 1: Check equilibrium condition
A consumer is in equilibrium when:
MRS_{XY}=PX/PY
Here: 3/3 = 1
MRS_{XY} = 3 is not equal 1
So, **the consumer is NOT in equilibrium**.
What will a rational consumer do?

- MRS > Price ratio (3>1)
- This means the consumer **values X more than its price relative to Y**.
- **Rational choice:** The consumer will **buy more of X and less of Y** until MRS equals the price ratio.

32. (A) **Answer: True** 2)
Reason:

- **Excess supply** occurs when the **quantity supplied is more than the quantity demanded**.
- This happens when the **market price is above the equilibrium price**, because at a higher price, producers supply more while consumers buy less.
- As a result, the **excess supply (surplus) appears in the market** until the price falls to the equilibrium level.

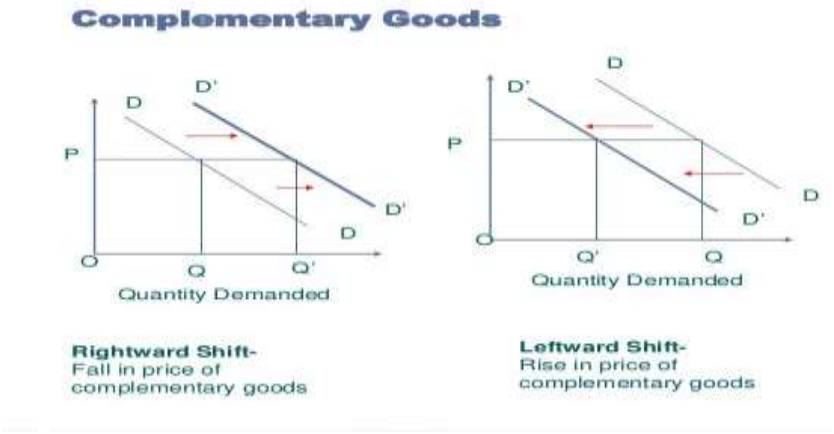
(B) Effect of an increase in the price of complementary goods: **2)**

- **Complementary goods** are goods that are used together (e.g., tea and sugar).
- When the **price of one complementary good rises**, the **demand for the other good falls**.

Consequences in the market of the second good:

1. **Equilibrium price:** Decreases
2. **Equilibrium quantity:** Decreases

Reason: The fall in demand shifts the **demand curve to the left**, resulting in a lower price and lower quantity in equilibrium.



33. (A) TC = 54,69 AVC = 20,15.16 MC = 10 3)

(B) **Nature and Behaviour of Average Fixed Cost (AFC)** **3)**

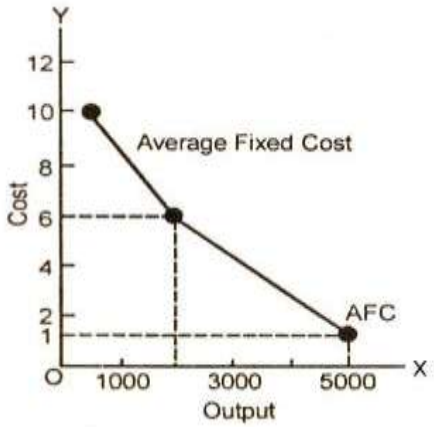
1. **Definition:**
   Average Fixed Cost (AFC) is the **fixed cost per unit of output**.

   AFC= TFC/Q

2. **Behaviour:**
   - Fixed cost **does not change** with output.
   - As output **increases**, AFC **falls continuously** because the same fixed cost is spread over more units.
   - **AFC curve is always downward sloping** and approaches the horizontal axis but never touches it.

Assume **Fixed Cost (FC) = Rs. 24**

Output (Q)	Fixed Cost (FC)	Average Fixed Cost (AFC = FC/Q)
1	24	24.00
2	24	12.00
3	24	8.00
4	24	6.00
6	24	4.00



OR

(A) (**i) When Price Remains Constant (Perfectly Elastic Demand)** **4)**

- AR = Price = constant
- Each additional unit sold earns **the same revenue**
- Therefore, **MR = AR** at all levels of output

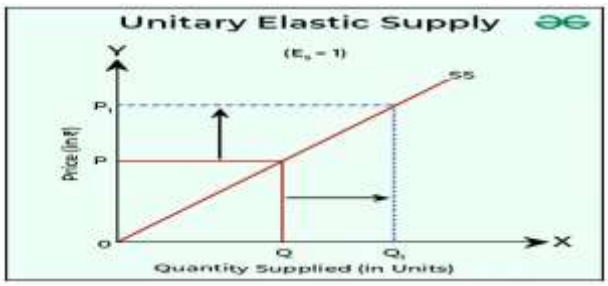
- AR curve: **horizontal straight line**
- MR curve: **coincides with AR curve**

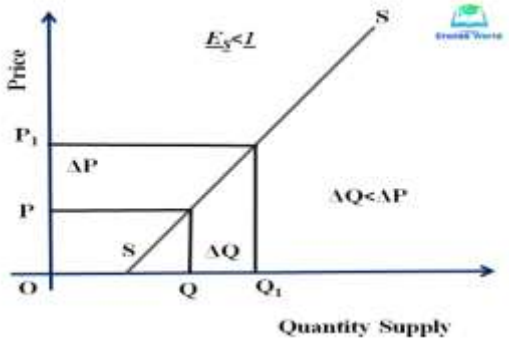
(ii) When Price Falls with Rise in Output (Downward Sloping Demand)

- AR **falls as output increases**
- MR **falls faster than AR** and is **always below AR**
- MR may become negative if output is increased beyond a certain point

- AR curve: **downward sloping**
- MR curve: **downward sloping**, lies below AR

(B) (i) Elasticity of Supply = 1 2)

(



(ii)

34. **(A) Factors prompting Ritu's demand for juice to expand or decrease** **3)**

- **Expansion of demand:** When the **price of fruit juice falls**, Ritu can buy more juice with the same income. The **quantity demanded increases**, causing a movement **down along the demand curve**.
- **Decrease of demand: Income, Taste and preferences (Unfavourable), prices of related goods.**

(B) Giffen Goods – Exception to the Law of Demand **2)**

- **Definition:** Giffen goods are **inferior goods** for which **demand rises when price rises** and **falls when price falls**, contrary to the usual law of demand.
- **Reason:** The **income effect outweighs the substitution effect**.
- Example: If the price of a staple food like **bread or rice rises**, a very poor consumer may **buy more of it** because they cannot afford more expensive substitutes.

(C) Slope of the Budget Line **1)**

- **Slope of budget line** = −Price of Good X / Price of Good Y
- It shows the **rate at which one good can be substituted for another** while staying within the budget.

**********ALL THE BEST**********