

Class 11
Economics
Set 2 with Solutions

Time Allowed : 3 hours

Maximum Marks : 80

General Instructions:

All questions are compulsory.

Marks for questions are indicated against each question.

Q. No. 1 to 10 and 18 to 27 are Objective Type Questions / Multiple Choice Questions carrying 1 mark each.

Q. No. 11 to 12 and 28 to 29 are Short Answer Type Questions I carrying 3 marks each.

Q. No. 13 to 15 and 30 to 32 are Short Answer Type Questions II carrying 4 marks each.

Q. No. 16 to 17 and 33 to 34 are Long Answer Type Questions carrying 6 marks each.

Section - A

Question 1.

After every 10 years, information regarding population of India is collected through: [1]

- (A) Census method
- (B) Sample method
- (C) Both (A) and (B)
- (D) None of these

Answer:

Option (A) is correct

Explanation:

Census of India provides most complete and continuous demographic record of population. The first census after independence was held in 1951.

Question 2.

When each and every unit of universe is not studied, then it is called: [1]

- (A) Census investigation
- (B) Sample investigation
- (C) Practical investigation
- (D) None of these

Answer:

Option (B) is correct

Explanation:

As the investigation is being done of the data collected from a particular sample, it is called Sample Investigation.

Question 3.

Variables can be classified into two types, and . [1]

- (A) Discrete, Continuous
- (B) Parallel, Simple
- (C) Simple, Complex
- (D) Single, Double

Answer:

Option (A) is correct

Question 4.

A teacher of a school wants to represent the marks obtained by a student in 5 subjects. Suggest him a simple presentation tool to present the marks of the students. [1]

- (A) Bar diagram
- (B) Pie Chart
- (C) Histogram
- (D) Time series graph

Answer:

Option (A) is correct

Explanation:

The most simplest way to diagrammatically represent data is through bar graph

Question 5.

Read the following Assertion (A) and Reason (R) and choose the correct alternative: [Spy [1]

Assertion (A): Census Investigation method is a very costly method.

Reason (R): Census method involves surveying a large number of people and so it requires a lot of labour and manpower.

Alternatives:

- (A) Both Assertion (A) and Reason (R) are correct, and Reason (R) is the correct explanation of Assertion (A).
- (B) Both Assertion (A) and Reason (R) are correct, but Reason (R) is not the correct explanation of Assertion (A).
- (C) Assertion (A) is true, but Reason (R) is false.
- (D) Assert

Option (A) is correct

Explanation:

As census method involves surveying a large number of people requiring a lot of manpower, it is a very expensive method.

Question 6.

Mode is not affected by the values.

- (A) Extreme
- (B) Central Value
- (C) First Value
- (D) Lat Value

OR

Correlation coefficient is always _____

- (A) + 0 to - 0
- (B) + 1 to - 1
- (C) + 2 to - 2
- (D) + 1 to 0

Answer:

Option (A) is correct

OR

Option (B) is correct

Read the following Article and answer questions 7 to 10 that follows:

Index Numbers methods are among the most commonly used statistical techniques in the area of economic statistics. Index Numbers are commonly used to combine large amounts of data about a given variable into a single number; the variable is then (usually) allowed to vary over either a spatial or temporal dimension. Statistics measured using some type of index number include, inflation, stock market performance, volumes of production and human development. Despite the widespread applied use of tools which fall under the heading of index numbers, the area is typically taught to economics undergraduates within a first-year statistics course in which a few formulae are introduced and then little emphasis is given to the subject area in other modules or in later years.

In this article, I will attempt to describe an alternative approach to the teaching of index numbers. It is argued that it is beneficial to move beyond the application of a small set of formulae to artificial data and consider that a deeper appreciation of index numbers can provide Economics students with a better understanding of the link between theory and application in the area of economic statistics. The proposed approach will enhance students' understanding of both the strengths and weaknesses inherent in the statistics produced by National Statistical Institutions such as the Office for National Statistics (ONS) in the UK. A better understanding of this environment will then potentially fuel their understanding of applied work in other areas of economics and make them better placed to analyse and make use of other economic statistics. Source: Teaching Index Number to Economist – Robert O'Neill – tandfonline.com

Question 7.

Which of the following is not the use of index number in Economics? [1]

- (A) Inflation
- (B) Stock Market
- (C) Human Development
- (D) Growth in Salary

Answer:

Option (D) is correct

Explanation:

Growth in salary is measured by percentage of the previous salary and not through index number.

Question 8.

Which of the following is not a measure of index number? [1]

- (A) Simple Index Number
- (B) Weighted Index Number
- (c) Consumer Price Index
- (D) None of the Above

Answer:

Option (D) is correct

Explanation:

All the options, i.e; Simple Index Number, Weighted Index Number and Consumer Price Index are different index numbers.

Question 9.

Which of the following statement is true regarding index number? [1]

- (A) Index Numbers explain average change
- (B) Index numbers are generally not true.
- (C) Index Numbers are not based on samples
- (D) Neglect of quantity of a commodity.

Answer:

Option (A) is correct

Explanation:

Index Numbers explain average change.

Rest are false as:

Index numbers are generally true

Index Numbers are based on samples

Neglect of quality of a commodity

Question 10.

Why is there a need to have a proper understanding of index numbers? [1]

(A) We can understand the environment properly

(B) It helps in a better economic analysis

(C) It makes us use statistics

(D) All of the Above

Answer:

Option (B) is correct

Explanation:

A better understanding of this environment will then potentially fuel their understanding of applied work in other areas of economics and make them better placed to analyse and make use of other economic statistics.

Question 11.

How are index numbers useful for statistical calculations? [3]

Answer:

Utility/Uses of Index Numbers:

Index Numbers make easy the difficult facts: Index Numbers presents the complex facts into simple and understandable form. So many times index number measures such changes which may not be measured directly.

Index numbers make comparative study easy: Index Numbers show the facts represented in different units comparatively.

Helpful in measuring irregular changes: For example changes in prices are helpful in different circumstances.

Index Numbers studies the changes in general price level: Most important use of index number is that it measures the value of money during different periods of time.

Question 12.

Calculate Arithmetic Mean from the following data: [3]

Marks	No. of students
0-10	2
10-20	7
20-30	10
30-40	15

40-50	20
50-60	16
60-70	6
70-80	4

OR

Locate the Mode graphically:

Marks	No. of students
0-10	5
10-20	10
20-30	20
30-40	25
40-50	20
50-60	10
60-70	5

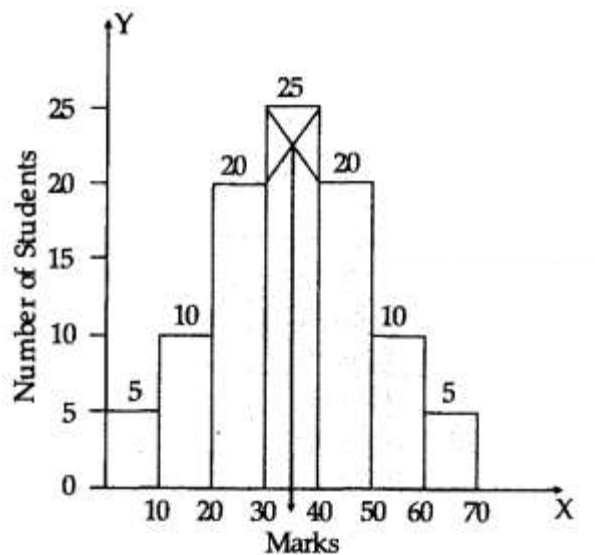
Answer:

Marks	f	x	fx
0-10	2	5	10
10-20	7	15	105
20-30	10	25	250
30-40	15	35	525
40-50	20	45	900
50-60	16	55	880
60-70	6	65	390
70-80	4	75	300
	$N = 80$		$\Sigma fx = 3360$

$$A.M = \frac{\Sigma fx}{N} = \frac{3360}{80} = 42$$

OR

Firstly, we draw the histogram of the given data. Here, maximum height of rectangle is 25.00 modal class is 30 - 40.



It is clear from the histogram that the value of mode is 35.

Question 13.

Show the annual profit figures of a firm with the help of a time series graph:

Year	Profit (₹ in '000)
2006	60
2007	72
2008	75
2009	65
2010	80
2011	95

OR

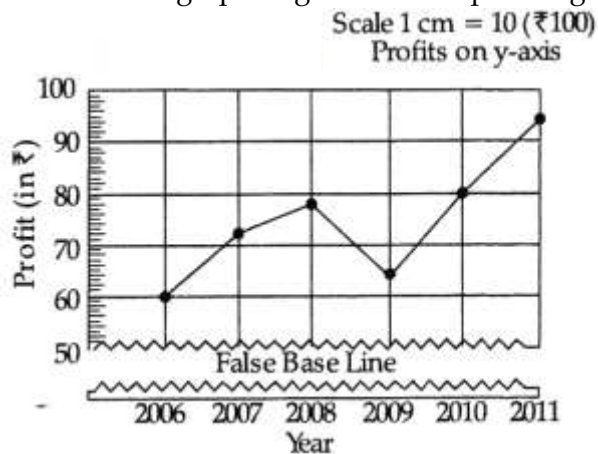
Construct frequency polygon without histogram using following data: [4]

Weekly Wages (₹)	Number of Workers
0-10	10
10-20	18
20-30	35
30-40	30
40-50	20
50-60	12
60-80	8

Answer:

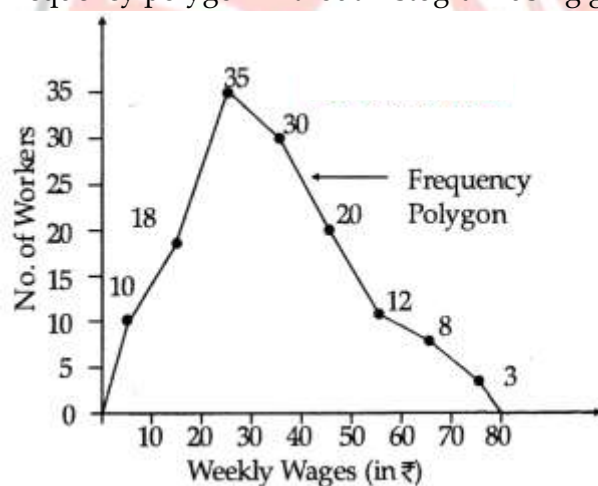
As per the question, years 2006 to 2011 and their respective profits are given. Before plotting the graph a false base line should be prepared in order to make profit scale equal.

A time series graph of given annual profit figures is shown below:



OR

Frequency polygon without histogram using given data is shown below:



Question 14.

The mean of 200 items was 50. Later it was discovered that two items were misread as 92 and 8 instead of 192 and 88. Find the correct mean. [4]

Answer:

Incorrect Mean, $X = 50$

$$\Sigma X = X \times N$$

$$\therefore \Sigma X = 50 \times 200 = 10,000$$

Correct Mean = $\Sigma X - \text{Sum of Incorrect Values} + \text{Sum of Correct Value}$

$$= 10,000 - (92 + 8) + (192 + 88)200$$

$$= 10,000 - 100 + 280200 = 10,180200$$

Correct Mean = 50.9

Question 15.

The following series relates to the daily income of workers employed in a firm. Compute the (i) highest income of lowest 50% workers, (ii) minimum income earned by the top 25%, and (iii) maximum income earned by lowest 25% workers. [4]

Daily Income	10 – 14	15 – 19	20 – 24	25 – 29	30 – 34	35 – 39
No. of workers	5	10	15	20	10	5

Answer:

Since inclusive class intervals are given, firstly we convert them into exclusive class interval.

Daily Income	Exclusive Group	<i>f</i>	<i>c.f.</i>
10–14	9.5–14.5	5	5
15–19	14.5–19.5	10	15
20–24	19.5–24.5	15	30
25–29	24.5–29.5	20	50
30–34	29.5–34.5	10	60
35–39	34.5–39.5	5	65
		N = 65	

(i) To find the highest income of lowest 50% workers, we calculate

Median (M) = $N/2 = 65/2$

= Value of 32.5th item Median class is 24.5 – 29.5

$M = l_1 + \frac{N/2 - c.f.f}{f} \times h$

= $24.5 + \frac{32.5 - 30}{20} \times 5$

= $24.5 + 2.5/20 \times 5 = 24.5 + 0.62 = 25.11$

(ii) To find the minimum income earned by the top 25% workers, we calculate Upper Quartile (Q3)

= $3N/4 = 3 \times 65/4 = 48.75$ th item. Upper Quartile class is 24.5 – 29.5.

$Q_3 = l_1 + \frac{3N/4 - c.f.f}{f} \times h$

= $24.5 + \frac{48.75 - 30}{20} \times 5 = 29.19$

(iii) To find the minimum income earned by the lowest 25% workers, we calculate

Lower Quartile (Q1) = $N/4 = 65/4 = 16.25$ th item, 4 4

Lower Quartile class is 19.5–24.5.

$Q_1 = l_1 + \frac{N/4 - c.f.f}{f} \times h$

= $19.5 + \frac{16.25 - 15}{15} \times 5$

= 19.92

Question 16.

Calculate the Coefficient of Correlation of the following data by Spearman's Rank Correlation method: [6]

X	Y
19	9
24	22
12	20
23	14
19	22
16	18

Answer:

X	Rank	Y	Rank	Rank Difference D(X - Y)	D ²
19	3.5	9	6	-2.5	6.25
24	1	22	1.5	-0.5	0.25
12	6	20	3	3	9
23	2	14	5	-3	9
19	3.5	22	1.5	2	4
16	5	18	4	1	1
N = 6				$\Sigma D = 0$	$\Sigma D^2 = 29.5$

$$\rho = 1 - \frac{6 \left(\Sigma D^2 + \frac{1}{12} (m^3 - m) + \frac{1}{12} (m^3 - m) \right)}{N(N^2 - 1)}$$

$$= 1 - \frac{6 \left(29.5 + \frac{1}{12} (2^3 - 2) + \frac{1}{12} (2^3 - 2) \right)}{6((6)^2 - 1)}$$

$$= 1 - \frac{6 \left(29.5 + \frac{1}{12} (6) + \frac{1}{12} (6) \right)}{6 \times 35} = 1 - \frac{30.5}{210} = 0.15$$

Question 17.

Construct Index Number of prices from the data given below by applying Fisher's Method. [6]

Commodities	Base Year		Current Year	
	Price	Quantity	Price	Quantity
A	5	25	6	30
B	10	5	15	6
C	2	15	3	20
D	3	12	5	15

OR

What are the desirable properties of the base period? [6]

Answer:

Fisher's Method:

Commodities	P ₀	Q ₀	P ₁	Q ₁	P ₀ Q ₀	P ₁ Q ₁	P ₀ Q ₁	P ₁ Q ₀
A	5	25	6	30	125	180	150	150
B	10	5	15	6	50	90	60	75
C	2	15	3	20	30	60	40	45
D	3	12	5	15	36	75	45	60
					241	405	295	330

$$\begin{aligned}
 \text{Fisher's Ideal Index} &= \sqrt{(L \times P)} \\
 &= \sqrt{\frac{\sum p_1 q_0}{\sum p_0 q_0} \times \frac{\sum p_1 q_1}{\sum p_0 q_1}} \times 100 \\
 &= \sqrt{\frac{330}{241} \times \frac{405}{295}} \times 100 \\
 &= \sqrt{1.37 \times 1.37} \times 100 \\
 &= 1.37 \times 100 = 137
 \end{aligned}$$

OR

The base period should have the following desirable properties:

- (i) Base year should not be either too short or too long: It should not be either less than a month or more than a year for calculation purpose.
- (ii) Base year should not belong to too near or too far: Statisticians compare the current year's conditions with the conditions in the base year. So, if the base year is too far from the current year, then the comparison becomes meaningless. Similarly, if the base year is too near to the current year, then comparison fails to capture the change in the taste, preferences, fashion, etc. Thus, in order to conduct a meaningful comparison, the base year should not be either too far or too near to the current year.
- (iii) Base year should be so selected that the data for the same should be available: The data for a year should be available in order to regard that particular year to be the base year. This enables one to draw conclusions, inferences and for making comparisons.
- (iv) Base period should be constantly updated: The base year should be constantly updated due to the changes in taste, preferences and fashion; otherwise the comparison becomes misleading or inconclusive.

Section - B

Question 18.

Read the following Assertion (A) and Reason (R) and choose the correct alternative: [1]

Assertion (A): Law of diminishing marginal utility states that as more and more units of a commodity are consumed, marginal utility derived from every additional unit must decline.

Reason (R): When MU is negative, TU will be decreasing.

Alternatives:

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

OR

Identify the correct pair of items from the following Columns I and II: [1]

Column I	Column II
A. Assumption of Law of diminishing marginal utility	1. Homogeneous units of commodity
B. Assumption of Law of equi-marginal utility	2. Continuous consumption without any time lag
C. Assumption of Law of diminishing total utility	3. Standard units of commodity
D. Assumptions of Law of diminishing utility	4. No change in tastes, preferences, or income of the consumer

(A) A - 1

(B) B - 2

(C) C - 3

(D) D - 4

Answer:

Option (B) is correct

OR

Option (A) is correct

Question 19.

The slope of price line in case of commodities x and y is given by: [1]

(A) Taste and preferences of consumer

(B) Prices of both the commodities

(C) Price of commodity x alone

(D) Price of commodity y alone

Answer:

Option (B) is correct

Explanation:

The Price line joins the prices of both the commodities.

Question 20.

Which of the following is not the property of Indifference Curve. [1]

(A) It is concave to the origin.

(B) It is downward sloping.

(C) Higher the indifference curve higher is the satisfaction.

(D) All of the above.

Answer:

Option (A) is correct

Explanation:

Indifference Curve is convex to the origin.

Question 21.

Read the statements Assertion (A) and Reason (R) and choose the correct alternative: [1]

Assertion (A): Demand for antiques is perfectly inelastic.

Reason (R): The perfectly inelastic demand have the elasticity equal to zero.

Alternatives:

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

(A).

(B) Both Assertion (A) and Reason (R) are correct, 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.

Answer:

Option (B) is correct

Explanation:

Demand for antiques is perfectly inelastic as the demand for the antiques will not be effected by the change in the price levels.

Question 22.

Which curve is not affected by fixed costs? [1]

(A) MC curve

(B) TC curve

(C) AC curve

(D) AFC curve

Answer:

Option (A) is correct

Explanation:

MC curve is dependent on the change in the Total Cost by the production of one more unit, which is not affected by Average Cost.

Question 23.

Read the following Statement 1 and Statement 2 and choose the correct alternative: [1]

Statement 1: Law of diminishing marginal utility states that as more and more units of a commodity are consumed, marginal utility derived from every additional unit must decline.

Statement 2: The law of equi marginal utility states that the consumer will distribute his money income between the goods in such a way that the utility derived from the last rupee spent on each good is equal.

Alternatives:

(A) Both Statement 1 and Statement 2 are true.

(B) Both Statement 1 and Statement 2 are false.

(C) Only Statement 1 is true.

(D) Only Statement 2 is true.

Answer:

Option (A) is correct

Read the following passage and answer questions 24 to 27 that follows:

Jordan Cement Factories Company was set up in December 1951 as a share holding company. In March 1954, the company commenced business with the first bag of cement.

In order to ascertain the cost of products for a particular period of time, the company prepares cost sheet. The cost sheet data are collected from various statements of accounts which have been written in cost accounts either on day to day or regular records. The main elements of cost sheet are prime cost, work cost and cost of production.

The main principle that underlines the cost classifications of main elements of the cost is fixed and variable cost basis. The company does not consider any other basis like direct and indirect costs or revenue and capital cost or functional classification for cost classification. Fixed and variable cost is based on the changes in activity or volume. Fixed cost or period cost remain unchanged in spite of changes in volume or activity.

Variable cost or product cost vary in complete proportion to the volume of output. Capital and revenue

basis depends on the purpose of expenditure. Any cost incurred in purchasing assets either to earn income or increasing the earning capacity of the business is known as capital cost. But any cost incurred for the purpose of maintaining the earning capacity of the business is revenue expenditure.

Question 24.

The cost sheet is prepared by the company to ascertain _____ (revenue/cost/demand/production) of the product at a particular time. [1]

Answer:

Cost

Question 25.

The main principle underlying the cost classification is the main element of the cost in _____ and _____ cost basis. [1]

- (A) fixed, opportunity
- (B) fixed, implicit
- (C) implicit, explicit
- (D) fixed, variable

Answer:

Option (D) is correct

Question 26.

State whether the given statement is true or false: [1]

Variable cost or product cost vary in complete proportion to the volume of output.

Answer:

True

Question 27.

Read the following statements – Statement 1 and Statement 2: [1]

Statement 1: Revenue expenditure is incurred for the purpose of increasing the earning capacity of the business. Statement 2: Revenue expenditure can be easily defined as money spent for purchase or creating of long-term assets. Select the correct alternative from the following:

- (A) Both Statement 1 and Statement 2 are true.
- (B) Both Statement 1 and Statement 2 are false.
- (C) Only Statement 1 is true.
- (D) Only Statement 2 is true.

Answer:

Option (B) is correct

Question 28.

Explain the implication of “freedom of entry and exit” feature of perfect competition. [3]

OR

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

- (i) When equilibrium price of a good is less than the market price, there will be competition among the sellers.
- (ii) Excess supply of a commodity exists when its market price is greater than its equilibrium price. [3]

Answer:

Under perfect competition, there will be no restriction on the entry and exit of both buyers and sellers. If the existing sellers start making abnormal profits, new sellers should be able to enter the market freely. This will bring down the abnormal profits to the normal level. Similarly, when losses will occur existing sellers may leave the market. However, such free entry or free exit is possible only in the long run, but not in the short-run.

OR

(i) True.

Because when the prevailing, market price is higher than the equilibrium price there will be excess supply, and since the sellers will not be able to sell all they want to sell, there will be competition among sellers.

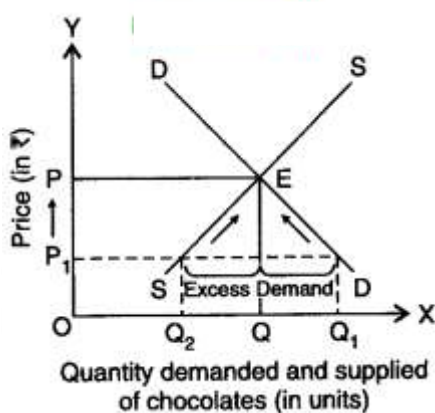
(ii) True. Excess supply occurs when the market price is greater than the equilibrium price. This leads competition among sellers as a result of which price starts falling and again market price becomes equal to equilibrium price.

Question 29.

Explain the chain effects, if the prevailing market price is below the equilibrium price. [3]

Answer:

When market price is less than the equilibrium price excess demand is created, i.e., quantity demanded is more than the quantity supplied at the prevailing market price. If the prevailing market price, say OP_1 , is less than equilibrium price OP then market demand of OP_1 , will be greater than market supply of OP_2 .



(i) The excess demand of results in competition amongst the buyers as each buyer wants to have the commodity. It leads to increase in market price.

(ii) Increase in price results in contraction along the demand curve and expansion along the supply curve.

(lii) The market price will continue to rise till excess demand is wiped out.

Conclusion: Eventually price will increase to a level where market demand is equal to market supply at OQ and equilibrium price of OP will be attained.

Commonly Made Error:

Though the students are aware of the conclusion, many of them are not able to list the chain of events correctly.

Answering Tip

Students must prepare derivation of different curves and situations thoroughly.

Question 30.

The price elasticity of demand for a good is $(-)$ 0.4. If its price increases by 5 percent, by what percentage will its demand fall? Calculate. [4]

Answer:

$$E_d = \frac{\% \text{ Change in Demand}}{\% \text{ Change in Price}}$$

$$\therefore (-) 0.4 = \frac{\% \text{ Change in Demand}}{5}$$

$$\therefore \% \text{ Change in Demand} = (-) (0.4) \times 5$$
$$= (-) 2.0$$

\therefore Demand falls by 2 percent

Question 31.

Calculate Marginal Cost at each level of output: [4]

Output (Units)	Average Variable Cost (AVC) (₹)
1	13
2	11
3	10
4	10
5	11
6	12 –

Answer:

Output(Units)	AVC	TVC	MC = $\Delta TVC / \Delta Q$
1	13	13	13
2	11	22	9
3	10	30	8
4	10	40	10
5	11	55	15
6	12	72	17

Question 32.

Discuss the central problems of an economy. [4]

OR

What do you understand by:

(i) Positive Economic Analysis

(ii) Normative Economic Analysis [4]

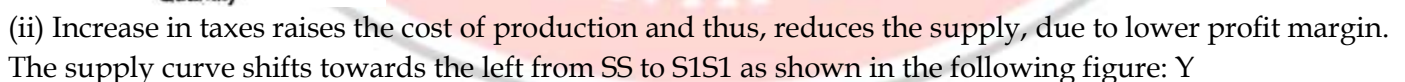
Answer:

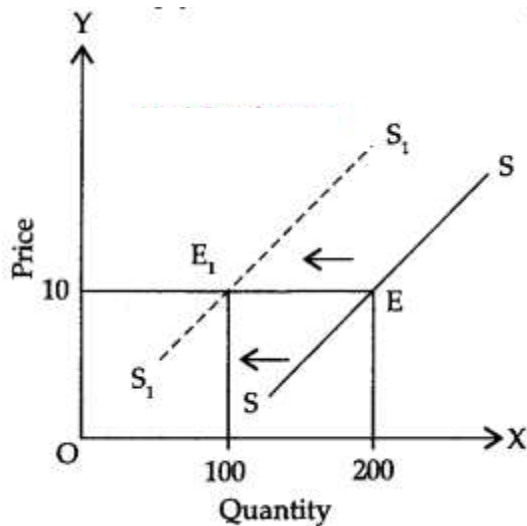
At the micro level, every economy faces three central problems, i.e., what to produce, how to produce and for whom to produce.

What to Produce:

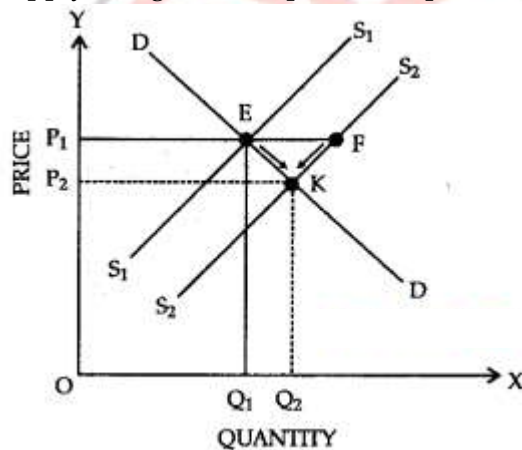
The problem of 'what to produce' arises as the producers have limited resources. In an economy because of scarcity of resources, producers are unable to produce everything in bulk but they will have to make a choice as to which one is important as a whole so that limited resources can be rationally managed.

Problem of 'what to produce' involves two-fold decisions: kind of goods to be produced and quantum of goods to be produced. How to Produce: It is concerned with how to organise production. This problem is





OR
Market equilibrium is a situation where market demand is equal to market supply. Effect of increase in supply of a good on equilibrium price and equilibrium quantity is discussed with reference to figure:



In figure, S_1S_1 is the initial supply curve crossing demand curve DD at point E , which is the point of initial equilibrium. Now, owing to an increase in supply, supply curve shifts to the right, from S_1S_1 to S_2S_2 . As an immediate impact of increase in supply, there is excess supply, equal to EF (at the existing price). Due to the excess supply (and sluggish demand), price of the commodity tends to be lower than the equilibrium price. At lower price, quantity demanded tends to extend. Extension of demand occurs from point E towards point K . However, at lower price, quantity supplied tends to contract. The contraction of supply occurs from point F towards point K . The process of extension of demand and contraction of supply (triggered by the lowering price) continues till the excess supply is fully exhausted. K is the point of new equilibrium where the market clears itself once again. Corresponding to the new equilibrium, quantity demanded is equal to the quantity supplied, i.e., OQ_2 and equilibrium price is OP_2 .

Thus, the net effect of increase in supply is:

Equilibrium price reduces from OP_1 to OP_2 , and

Equilibrium quantity rises from OQ_1 to OQ_2 .

Question 34.

Explain the difference between Cardinal and Ordinal Utility. Give example. [6]

Answer:

Difference between Cardinal Utility and Ordinal Utility:

Basis	Cardinal Utility	Ordinal Utility
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Meaning	It means satisfaction that can be measured in numbers such as 1,2,3, etc.	It refers to satisfaction that cannot be measured in numbers.
Concept	This concept was given by Marshall.	This concept was given by J.R. Hicks.
Realistic	It is less realistic.	It is more realistic.
Analysis	This theory is explained with the marginal utility.	This theory is explained through indifference curve.
Measurement of Satisfaction	Cardinal utility measures satisfaction in terms of units.	Ordinal utility measures satisfaction in terms of ranks.
Example	Cup of tea offers you 4 units of utility.	Cup of tea offers you greater satisfaction than a cup of coffee.

Commonly Made Error:

Some students get confused between the concepts of cardinal and ordinal utility.

Answering Tip:

Cardinal means measurable and ordinal means qualitative comparison.

