CBSE Class 11 Economics

Sample Paper 02 (2020-21)

Maximum Marks: 80

Time Allowed: 3 hours

General Instructions:

i. This question paper contains two parts: Part A - Statistics (40 marks) and Part B - Micro Economics (40 marks).
ii. Marks for questions are indicated against each question.
iii. Question No. 1-7 and Question No. 15 – 21 (including two Case Based Questions) are 1 mark questions and are to be answered in one word/sentence.
iv. Case Based Questions (CBQ's) are Question No. 7 and Question No. 15.
v. Question No. 8-9 and Question No. 22 – 23 are 3 marks questions and are to be answered in 60 - 80 words each.
vi. Question No. 10-12 and Question No. 24 – 26 are 4 marks questions and are to be answered in 80-100 words each.
vii. Question No. 13-14 and Question No. 27 – 28 are 6 marks questions and are to be answered in 100-150 words each.
viii. Answers should be brief and to the point and the above word limit be adhered to as far as possible.

PART - A (STATISTICS)

1. The most commonly used measure of dispersion is:
   a. standard deviation
   b. coefficient of mean deviation
   c. variance
   d. quartile deviation

OR

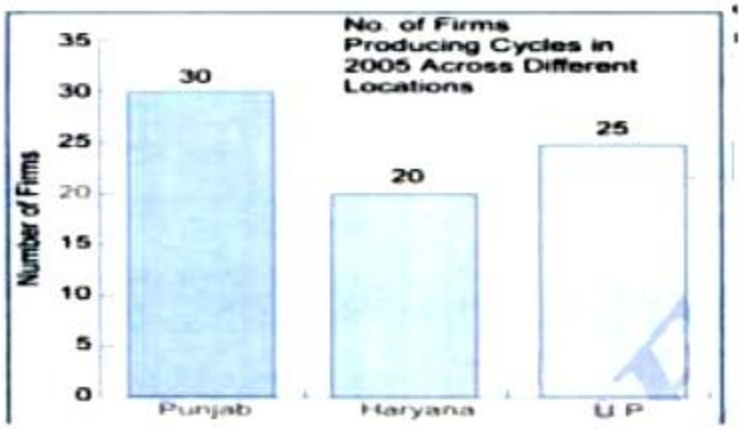
Standard deviation is also called

a. Mean Square Deviation
b. Square Deviation
c. Mean Deviation
d. Root-Mean Square Deviation

2. Fill in the blanks:

_____ economic deals with opinions, policy evaluation and idealistic part of economics.

3. Name the type of classification used in the following graph



a. Chronological
b. Quantitative
c. Spatial
d. Qualitative

4. The main group of industries covered by IIP are
a. Electricity
b. Mining
c. Manufacturing
d. All of these

5. A series of numerical figures which show the relative position is called:
a. Rational number
b. Relative number
c. Index number
d. Absolute Number

6. Rank correlation is a superior method of analysis in case of ____ distributions such as those relating to virtue, wisdom or ignorance.
a. None of these
b. qualitative

c. data

d. quantitative

7. **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.

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

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)

8. What do you mean by loss of information in organized data?

9. Calculate Arithmetic Mean by assumed mean method from the data given in previous example.

OR

Find the median size of profits earned by some companies.

Profit (Rs.000's)	Less than 100	100-200	200-300	300-400	400 and above
Number of Companies	40	80	50	20	10

10. Calculate standard deviation and its coefficient by direct method.

Marks	0 - 10	10 - 20	20 - 30	30 - 40	40 - 50

Number of students	4	3	6	5	2

11. Differentiate between Sub Divided and Multiple Bar Diagram.

OR

Draw the 'less-than' and 'more-than' ogive from the data given below

Weekly Wages (in Rs.)	**Number of Workers**
0-20	10
20-40	20
40-60	40
60-80	20
80-100	10

12. Calculate standard deviation and coefficient of variation from the following data with the help of direct method

S.No.	1	2	3	4	5
Marks	10	12	13	15	20

13. **Give formula for:**
    a. Simple mean in individual series by short cut method
    b. Weighted mean
    c. Simple mean in continuous series by direct method
    d. Simple mean in discrete series by short cut method
    e. Combined Mean
    f. Simple mean in continuous series by step deviation method

OR

The arithmetic mean gets distorted by extreme values in the series and that the value of arithmetic mean may not figure in the series at all. Write the limitations of mean with the help of above statement.

14. Calculate the correlation coefficient between the height of fathers in inches (X) and their sons (Y).

X	65	66	57	67	68	69	70	72
Y	67	56	65	68	72	72	69	71

PART - B (MICRO ECONOMICS)

15. What causes an economy to produce more of Good X and no less of Good Y?
    a. Technology to produce Good X improves
    b. Good Y becomes expensive
    c. Good X becomes cheaper
    d. Technological development
16. A firm earns normal profit before break even in the short run.The statement is
    a. None of these
    b. True
    c. Can't say
    d. False.
17. **Assertion:** Budget line can shift to the right when the consumer is able to increase the consumption of both goods.
    Reason: When the prices of both goods fall, the consumer can not purchase more goods with the same income level.
    a. Assertion and reason both are correct statements and reason is correct explanation for assertion.
    b. Assertion and reason both are correct statements but reason is not correct explanation for assertion.
    c. Assertion is correct statement but reason is wrong statement.
    d. Assertion is wrong statement but reason is correct statement.

OR

Assertion: Budget line can shift to the right when the consumer is able to increase the consumption of both goods.
Reason: When the level of income increases, the consumer will be able to buy more bundles of goods, which were previously not possible.

a. Assertion and reason both are correct statements and reason is correct explanation for assertion.
b. Assertion and reason both are correct statements but reason is not correct

explanation for assertion.

c. Assertion is correct statement but reason is wrong statement.
d. Assertion is wrong statement but reason is correct statement.

18. **Assertion:** Consumer is willing to sacrifice less and less units of a good to gain an additional unit of the other good.

    Reason: The utility that he gets from consuming an additional unit of a good goes on diminishing.

    a. Assertion and reason both are correct statements and reason is correct explanation for assertion.
    b. Assertion and reason both are correct statements but reason is not correct explanation for assertion.
    c. Assertion is correct statement but reason is wrong statement.
    d. Assertion is wrong statement but reason is correct statement.

19. If the market demand curve for a commodity is horizontal to x-axis then the market structure must be:

    a. Perfect competition
    b. The market structure cannot be determined from the information given.
    c. Oligopoly
    d. Monopoly

20. What happens to AR when MR is zero

    a. Decreases and remain positive
    b. Decreases at increasing rate
    c. Decreases and becomes negative
    d. Decreases at decreasing rate

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

    Elasticity refers to the degree of responsiveness in supply or demand in relation to changes in price. If a curve is more elastic, then small changes in price will cause large changes in the quantity consumed. If a curve is less elastic, then it will take large changes in price to effect a change in quantity consumed. Graphically, elasticity can be represented by the appearance of the supply or demand curve. A more elastic curve will be horizontal, and a less elastic curve will tilt more vertically. When talking about elasticity, the term "flat" refers to curves that are horizontal; a "flatter" elastic curve is

closer to perfectly horizontal. At the extremes, a perfectly elastic curve will be horizontal, and a perfectly inelastic curve will be vertical. **Hint:** You can use perfectly inelastic and perfectly elastic curves to help you remember what inelastic and elastic curves look like: an Inelastic curve is more vertical, like the letter I. An Elastic curve is flatter, like the horizontal lines in the letter E.

i. At higher price level, the elasticity of demand for the commodity will be _____. (Lower/ Higher)
ii. Elasticity of demand in case of necessaries is _____. (Elastic/ Inelastic)
iii. When demand curve is parallel to the x-axis, the elasticity of demand is:
    a. unity
    b. zero
    c. greater than unity
    d. infinity
iv. The demand for goods like sugar and tea is usually :
    a. elastic
    b. inelastic
    c. perfectly elastic
    d. perfectly inelastic

22. Explain the problem of 'what to produce'.

OR

Discuss the concept of opportunity cost with an example.

23. Purchase of a commodity by a consumer depends on many factors. Mention any three.
24. Suppose the demand and supply curves of salt are given by:

$q_D = 1{,}000 - p$

$q_S = 700 + 2p$

    a. Find the equilibrium price and quantity.
    b. Now suppose that the price of an input used to produce salt has increased so that the new supply curve is $q_s = 400 + 2p$

    How do the equilibrium price and quantity change? Does the change confirm to your expectation?
    c. Suppose the government has imposed a tax of Rs 3 per unit of sale of salt.

How does it affect the equilibrium price and quantity?

25. The following table shows the total revenue and total cost schedules of a competitive firm. Calculate the profit at each output level. Determine also the market price of the good.

Quantity Sold	TR	TC	Profit
0	0	5	
1	5	7	
2	10	10	
3	15	12	
4	20	15	
5	25	23	
6	30	33	
7	35	40	

OR

"In perfect competition, industry is the price maker and firm is the price taker." Discuss.

26. The price elasticity of demand of a good is (-) 0.5. At a price of Rs 20 per unit, its demand is 300 units. At what price will its demand increase by 10% .
27. Answer any two of the following questions:
    a. Study the given table and answer the following questions :

Land Capital	Resources (labour)	TP (Quintals)	MP (Quintals)	AP (Quintals)
30	1	10	10	10
30	2	25	15	12.5
30	3	37	12	12.3
30	4	47	10	11.8
30	5	55	8 -	11.0

30	6	60	5	10.0
30	7	63	3	9.0
30	8	63	0	7.9
30	9	62	-1	6.8

(i) Name the law which explain the mentioned situation.

(ii) Identify the three phases.

(iii) Identify the fixed and variable factor of production.

(iv) Is there any other way to increase the production ?

b. What efforts should be made in an economy for the continuous use of exhaustible natural resources in production?

c. MC should be rising at the point of Producer's Equilibrium. Comment.

d. A firm earns a revenue of Rs 50 when the market price of a good is Rs 10. The market price increases to Rs 15 and the firm now earns a revenue of Rs 150. What is the price elasticity of the firm's supply curve?

28. Answer the following questions:

a. What is a supply schedule? What is the effect on the supply of a good when Government gives a subsidy on the production of that good? Explain.

b. What are the average fixed cost, average variable cost and average cost of a firm? How are they related?

c. Draw average and marginal revenue curves under monopolistic competition.

CBSE Class 11 Economics

Sample Paper 02 (2020-21)

Solution

PART - A (STATISTICS)

1. (a) standard deviation

   Explanation: The standard deviation is a measure of the amount of variation or dispersion of a set of values.

   OR

   (d) Root-Mean Square Deviation

   Explanation: Standard deviation is square root of variance which is also knows as mean square deviation.
2. Normative
3. (c) Spatial

   Explanation: Classification based on the analysis of spatial objects related to its spatial characteristics, such as areas of region, roads, and ponds or rives is known as spatial classification.
4. (d) All of these

   Explanation: The Index of Industrial Production (IIP) is an index for India which details out the growth of various sectors in an economy such as mineral mining, electricity and manufacturing.
5. (b) Relative number

   Explanation: Relative numbers or values are dependent on other numbers. In other words, they are relative to other (absolute) numbers. A series of numerical figures which show the relative position is called Relative number.
6. (b) qualitative

   Explanation: Rank correlation is a superior method of analysis in case of qualitative distributions such as those relating to virtue, wisdom or ignorance.
7. i. Primary data
   ii. Indirect oral investigation
   iii. 1951

iv. 10

8. When we group data in a continuous series as shown below, we get to know only the fact that 4 students have marks more than equal to or more than 0 and less than 10 but we do not know the exact figures.

Marks	Frequency
0-10	4
10-20	7
20-30	4
30-40	3
40-50	2

Suppose all 4 had 1 mark, they will be in class 0-10 and even when all 4 have 9 marks, they will be in class 0-10. It is called loss of information in organized data.

The classified data summarises the raw data making it concise and comprehensible, it does not show the details that are found in raw data. Once the data are grouped into classes, an individual observation has no significance in further statistical calculations. Further, the statistical calculations are based on the values of the class marks, ignoring the exact observations of the data leading to the problem of loss of information.

9. For calculating arithmetic mean from this data, We have to first take the midpoint of each class interval, represented by 'm' in the table. Then decide on anyone midpoint as assumed mean and find out the deviations.

Calculation of Arithmetic Mean

Marks	Number of Students (f)	Mid-Value (m)	dm (m-A) A=45	fdm	
10-20	2	15	-30	-60	-300
20-30	7	25	-20	-140	
30-40	10	35	-10	-100	
40-50	15	45	0	0	

50-60	20	55	+10	+200	+700
60-70	16	65	+20	+320	
70-80	6	75	+30	+180	
	$\Sigma f = 76$				$\Sigma fdm = +400$

After multiplying fd with m for all the values and finding the total of fdm, we apply the values to the formula of mean given below:

Now, $\overline{X} = A + \frac{\Sigma fdm}{\Sigma f} \Rightarrow \overline{X} = 45 + \frac{400}{76}$

$\Rightarrow \quad \overline{X} = 45 + 5.26 = 50.26$

OR

Profit (Rs. 000's) (X)	Number of Companies (f)	Cumulative Frequency (cf)
Less than 100	40	40
100-200	80	120
200-300	50	170
300-400	20	190
400 and above	10	200
	$n = \Sigma f = 200$	

Here, $n = \Sigma f = 200$

$\therefore \quad m =$ Size of $\left(\frac{n}{2}\right) th\ item$

$= \left(\frac{200}{2}\right) th\ item$

= 100^{th} item

cf just greater than 100 is 120 and the corresponding group is 100-200, hence median class is 100-200.

$\therefore$ cf=40, f=80, c =100 (200 -100) and l_1=100

Now, $M = l_1 + \frac{\frac{n}{2} - cf}{f} \times c$

$= 100 + \left(\frac{100-40}{80}\right) \times 100$

$= 100 + \frac{6000}{80}$

=100 + 75=175

Therefore, the median size of profits earned by companies = Rs.175000

10. **Calculation of Standard Deviation and Its Coefficient.** To find out the standard deviation from this continuous series, we first have to take the midpoint of the class intervals (m). Then we have to find the square of the midpoints represented by m^2. Finally we have to multiply f with m^2 and find their sum. We can understand the calculations from the following table.

Marks(X)	Number of students(f)	Mid-point(m)	fm	m^2	fm^2
0 - 10	4	5	20	25	100
10 - 20	3	15	45	225	675
20 - 30	6	25	150	625	3750
30 - 40	5	35	175	1225	6125
40 - 50	2	45	90	2025	4050
	$\Sigma f = 20$		Σ fm = 480		Σfm^2 = 14, 700

Here, Σfm^2 = 14, 700, Σf = 20 and Σ fm = 480

Arithmetic mean $(\overline{X}) = \frac{\Sigma fm}{\Sigma f} = \frac{480}{20} = 24$

Standard Deviation $(\sigma) = \sqrt{\frac{\Sigma fm^2}{\Sigma f} - (\overline{X})^2}$

$\sigma = \sqrt{\frac{14700}{20} - (24)^2}$

$= \sqrt{735 - 576}$

$= \sqrt{159}$ = 12.61 marks

and Coefficient of $y = \frac{\sigma}{\overline{X}} = \frac{12.61}{24}$ = 0.525.

11.

Sub divided Bar Diagram	Multiple Bar Diagram
In Sub divided bar diagram, different components are shown in single bar with divisions.	In multiple bar diagram, different components are shown in different bars.
In Sub divided bar diagrams, 4-5 variables	In multiple bar diagram, not more than

can be shown.	three items can be shown comfortably.
It cannot be used to compare relative importance of different components.	It can be used to compare relative importance of different components.

OR

For less-than and more-than ogives, we will have to prepare less-than and more-than frequency distributions.

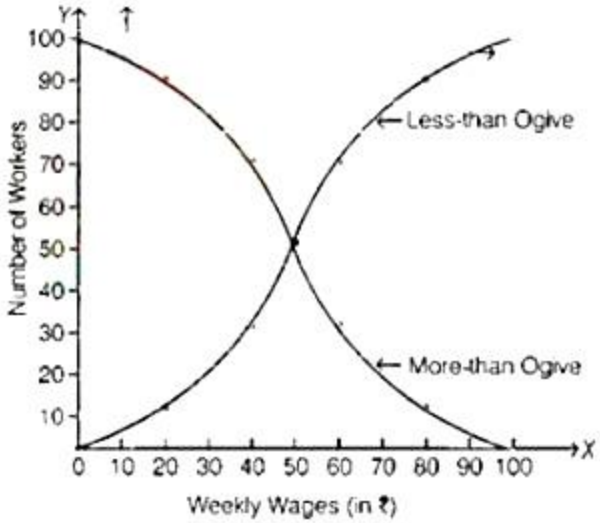
In less than method, the frequencies of all the preceding class intervals are added to the frequency of a class.

In more than method, the frequencies of all the succeeding class intervals are added to the frequency of a class.

The computation for both less than and more than ogive is given in the following table.

Less-than Distribution		**More-than Distribution**	
Weekly Wages (in Rs.)	**Number of Workers**	**Weekly Wages (in Rs.)**	**Number of Workers**
Less than 20	10	More than 0	100
Less than 40	30	More than 20	90
Less than 60	70	More than 40	70
Less than 80	90	More than 60	30
Less than 100	100	More than 80	10

The less-than' and 'more-than ogives of the given data are shown below



12. **Calculation of Standard Deviation and Coefficient of Variation:**

Here, we use the formula for standard deviation meant for individual series as the given data is in individual series.

Marks(X)	X^2
10	100
12	144
13	169
15	225
20	400
$\sum X = 70, n = 5$	$\Sigma X^2 = 1038$

$\overline{X} = \frac{\Sigma X}{n} = \frac{70}{5} = 14$

$\sigma = \sqrt{\frac{\Sigma X^2}{n} - \left(\frac{\Sigma X}{n}\right)^2} = \sqrt{\frac{1038}{5} - \left(\frac{70}{5}\right)^2}$

$= \sqrt{207.6 - 196} = \sqrt{11.6} = 3.41$

Coefficient of variation= $\frac{\sigma}{\overline{X}} \times 100$

$= \frac{3.4}{14} \times 100 = 24.35\%$

13. (a) $\overline{x} = \frac{1}{n}A + \frac{\sum d}{N}$

(b) Weighted Mean $= \Sigma WX / \Sigma W$

(c) $\overline{x} = \frac{\sum_{i=1}^{n} f_i m_i}{\sum_{i=1}^{n} f_i}$

(d) $\overline{x} = A + \frac{\sum_{i=1}^{n} f_i d_i}{\sum_{i=1}^{n} f_i}$

(e) Combined Mean $\overline{x}12 = \frac{\overline{x}_1 N_1 + \overline{x}_2 N_2}{N_1 + N_2}$

(f) $\overline{x} = A + \frac{\sum d'}{N} \times i$

OR

The limitations of mean are mentioned below:

i. The mean value may sometimes be that value which does not figure in the series at

all.

ii. Arithmetic mean sometimes offers illogical conclusions.

iii. Arithmetic mean cannot be determined by inspection.

iv. Arithmetic mean is not suitable for qualitative characteristics such as honesty, beauty, etc.

v. In skewed distributions, arithmetic mean is not a suitable measure.

vi. The main defect of arithmetic mean is that it gets distorted by extreme values of the series.

14. **Calculation of Coefficient of Correlation**

X	$x(X - \overline{X})$, $\overline{X}$ = 66.75	x^2	Y	$y(Y - \overline{Y})$, $\overline{Y}$ = 67.5	y^2	xy
65	-1.75	3.0625	67	-0.5	0.25	0.875
66	-0.75	0.5625	56	-11.5	132.25	8.625
57	-9.75	95.0625	65	-2.5	6.25	24.375
67	0.25	0.0625	68	0.5	0.25	0.125
68	1.25	1.5625	72	4.5	20.25	5.625
69	2.25	5.0625	72	4.5	20.25	10.125
70	3.25	10.5625	69	1.5	2.25	4.875
72	5.25	27.5625	71	3.5	12.25	18.375
ΣX = 534		Σx^2 = 143.5	ΣY = 540		Σy^2 = 194	Σ xy = 73

Here, n = 8, $\Sigma X = 534$, $\Sigma x^2 = 143.5$, $\Sigma Y = 540$, $\Sigma y^2 = 194$, $\Sigma xy = 73$

Now, $\overline{X} = \frac{\Sigma X}{n} = \frac{534}{8} = 66.75$, and $\overline{Y} = \frac{\Sigma Y}{n} = \frac{540}{8} = 67.5$

$$r = \frac{\Sigma xy}{\sqrt{\Sigma x^2 \times \Sigma y^2}} = \frac{73}{\sqrt{143.5 \times 194}} = \frac{73}{\sqrt{27839}} = \frac{73}{166.85} = 0.438$$

It indicates that there is low degree of positive correlation between height of fathers and sons.

PART - B (MICRO ECONOMICS)

15. (a) Technology to produce Good X improves

Explanation: Technology is the advancement of the society as a whole. Better technology means that you can figure out more efficient production techniques thereby leading the

economy to create a scope to move the PPC further to the right.

16. (d) False.

    Explanation: The firm will get normal profits at break even point when TC = TR. It is also called zero economic profits.

17. (c) Assertion is correct statement but reason is wrong statement.

    Explanation: When the prices of both goods fall, the consumer can purchase more goods with the same income level.

OR

(a) Assertion and reason both are correct statements and reason is correct explanation for assertion.

Explanation: Assertion and reason both are correct statements and reason is correct explanation for assertion.

18. (a) Assertion and reason both are correct statements and reason is correct explanation for assertion.

    Explanation: The consumer is willing to sacrifice less and less units of a good to gain an additional unit of the other good because the utility that he gets from consuming an additional unit of a good goes on diminishing.

19. (a) Perfect competition

    Explanation: Under perfect competition, the price remains constant due to which its demand curve is a straight line parallel to the x-axis.

20. (a) Decreases and remain positive

    Explanation: MR can fall to zero an even become negative but AR can neither be zero nor negative ad TR us always positive.

21. i. Higher
    ii. Inelastic
    iii. (d) Infinity
    iv. (b) Inelastic

22. An economy can produce different possible combinations of goods and services with given resrouces. The problem is that, out of these different combinations, which combinations is produced. If production of one good increases then less resources will be available for other goods.

OR

The opportunity cost of production of a commodity refers to the cost which the producer has to sacrifice in terms of the next best alternative which could be produced out of that cost in order to produce every unit of the given commodity. It refers to the value of a factor in its next best alternative use. If an economy can produce rice 2000 quintals of rice or 4000 quintals of wheat with the given resources and the economy chose to produce wheat then the opportunity cost will be 2000 quintals of rice which the economy has sacrificed.

23. Purchase of a commodity by a consumer depends on the following factors:
    i. Price of the commodity: The price of a commodity affects the buying decision, generally higher price of commodity discourage the buying decision and vice versa.
    ii. Marginal utility of the commodity: The price that the consumer is ready to pay for a commodity is the Marginal utility of a commodity. In a state of equilibrium Px=MUx (in terms of money).
    iii. Marginal utility of money: Marginal utility of money refers to "worth of money" to customer. The consumer is expected to define it himself. It is assumed that he defines it in terms of utility that he derives from a standard basket of goods he can buy with a rupee.

24. $q_D = 100 - p$ ... (1)

    $q_S = 700 + 2p$ ... (2)

    (a) At equilibrium

    Quantity demanded = Quantity supplied

    $1000 - p = 700 + 2p$

    $300 = 3p$

    $100 = p$

    p = Rs 100

    $q_D = 1000 - 100$ [Substituting the value of p in equation (1)]

    = 900 units

    So, the equilibrium price is Rs 100 and the equilibrium quantity is 900 units.

    (b) New quantity supplied q's

    $q'_s = 400 + 2p$

At equilibrium q_d = q's

1000 - p = 400 + 2p

600 = 3p

200 = p

p = Rs 200

Prior to the increase in the price of input, the equilibrium price was Rs 100, and after the rise in input's price, the equilibrium price is Rs 200.

So the change in the equilibrium price in Rs 100 (200 - 100).

q_D = 4000 - 200 [Subtitling the value of p in equation (1)]

= 800 units

The change in the equilibrium quantity is 100 units (i.e. 900 - 800 units).

Yes, this change is obvious, as due to the change in the input's price, the cost of producing salt has increased and consequently producers will be willing to supply less, that will shift the marginal cost curve leftward and move the supply curve to the left. A leftward shift in the supply curve results in a rise in the equilibrium price and a fall in the equilibrium quantity.

(c) The imposition of a tax of Rs 3 per unit of salt sold will raise the cost of producing salt. Consequently, supply decreases. This will shift the supply curve leftwards and the quantity supplied equation will become

$y^s = 700 + 2 (p - 3)$

At equilibrium

$y^d = y^s$

1000 - p = 700 +2 (p - 3)

1000 - p = 700 +2p – 6

306 = 3p

$\frac{306}{3}$ = p

p = Rs 102

Substituting the value of p in equation (1)

$y^d = 1000 – p$

$y^d = 1000 – 102$

y^d = 898 units

Thus, the imposition of a tax of Rs 3 per unit of salt sold will result in an increase in the price of salt from Rs 100 to Rs 102. The equilibrium quantity falls from 900 units to 898 units.

25. Profit = TR- TC

Average revenue is simply the revenue earned per unit of the output. In simpler words, it is the price of one unit of the output.

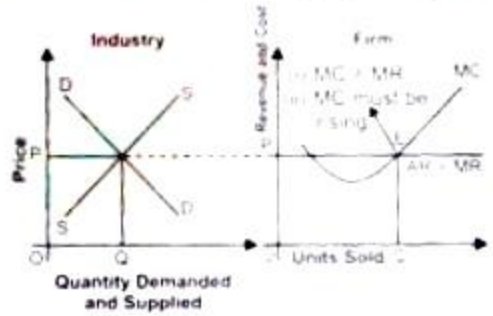
Quantity Sold	**TR**	**TC**	**Profit**	**AR = $\frac{TR}{Q}$**
0	0	5	0 - 5 = -5	-
1	5	7	5 - 7 = -2	$\frac{5}{1}$ = 5
2	10	10	10 - 10 = 0	$\frac{10}{2}$ = 5
3	15	12	15 - 12 = 3	$\frac{15}{3}$ = 5
4	20	15	20 - 15 = 5	$\frac{20}{4}$ = 5
5	25	23	25 - 23 = 2	$\frac{25}{5}$ = 5
6	30	33	30 - 33 = -3	$\frac{30}{6}$ = 5
7	35	40	35 - 40 = -5	$\frac{35}{7}$ = 5

OR

Yes, this statement is true.

i. As we know, in perfect competition, homogeneous goods are produced. So, industry cannot charge different price from different firms.

ii. So, industry will give that price to the firm where industry is in equilibrium, i.e., where Demand = Supply. Any movement from that point would be unstable.



iii. In the given diagram, price and revenue is measured on vertical axis and units of commodity on horizontal axis. Industry will give OP price or point E to the firm as at

that point Demand = Supply, i.e., industry is in equilibrium. The firms will follow the same price and charges same from the consumer.

To sum up industry acts as a monopoly for all firms in it but, cannot discriminate price of the commodity given pure competition among the firms. So, industry under Perfect competition is a price maker and each firm is aprice taker.

26.

Quantity	Price
Given, Old Quantity (Q) = 300 units	Given, Old Price (P) = Rs 20 per unit
Change in Quantity (ΔQ) = $300 \times \frac{10}{100} = 30$ units	Change in Price (ΔP) = ?

Now,Elasticity of Demand (Ed) = (-)0.5 (Given)

We know that,

$$E_d = \frac{P}{Q} \times \frac{\Delta Q}{\Delta P}$$

$$-0.5 = \frac{20}{300} \times \frac{30}{\Delta P}$$

$$-0.5 = \frac{2}{\Delta P} \Rightarrow \Delta P = \frac{2}{-0.5} = (-4)$$

So, when demand increase by 10%, the price = Rs 16 (20-4)

27. Answer any two of the following questions:

a. (i) Law of variable proportion.

(ii) (a) Increasing returns to factor - As the farmer increases units of labour from one to two. So, the 1st phase of increaing returns applies upto 2 labourers.

(b) Diminishing returns to factor - It begins when the farmer started using 3rd labourer. This stage continues till 7th labourer.

(c) Negative returns to factor - This stage begin when the farmer started using 8th worker.

(iii) Land is fixed factor, whereas labour is a variable factor.

(iv) Yes, production can also be increased by using modern input and new technology.

b. There are various efforts; namely,

(i) To increase use of renewable resources

(ii) To explore the substitutes of resources

(iii) To reduce the wastage of resources.

(iv) To spread awareness about the effectively and optimum use of natural resources.

c. The given statement is correct. If MC is falling at the point of equilibrium, the cost of

producing an additional unit tends to fall. Other things remaining constant, it would lead to a rise in total profits. So, MC should be rising at the point of the producer's equilibrium.

d. At Price, P_1 = Rs. 10

Total Revenue, $TR_1 = P_1 \times Q_1 = 50$

$= \frac{TR_1}{P_1} = Q_1$

$= \frac{50}{10} = Q_1$

$= Q_1 = 5$ units

At Price, P_2 = Rs 15

Total Revenue, $TR_2 = P_2 \times Q_2 = 150$

$= Q_2 = \frac{TR_2}{P_2}$

$= Q_2 = \frac{150}{15}$

$= Q_2 = 10$ units

Elasticity of supply, $e_s = \frac{\triangle Q}{\triangle P} \times \frac{P}{Q}$

$\triangle Q = Q_2 - Q_1 = 10 - 5 = 5$

$P = P_1 - P_2 = 15 - 10 = 5$

$e_s = \frac{5}{5} \times \frac{10}{5}$

$e_s = 2$

When the change in supply is relatively more when compared to the change in price, we say that the commodity has a relatively greater-elastic supply.

28. Answer the following questions:

a. A supply schedule is a table showing a relationship between price and quantity supplied of a commodity.

(ii) If government gives subsidy on the production of a particular commodity, the producer will earn higher revenues due to fall in cost, price remaining constant. This results in higher profits. In this situation, supply of a particular commodity increases.

b. i. Average Fixed Cost (AFC) It refers to the per-unit fixed cost of production

Calculated as AFC = $\frac{TFC}{Q}$

Where TFC = Total fixed cost, Q = quantity of output

ii. Average Variable Cost (AVC) It refers to the per unit variable cost of production

Calculated as AVC = $\frac{TVC}{Q}$

Where TVC = Total Variable Cost, Q = quantity of output

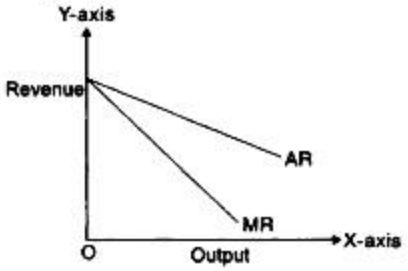
iii. Average Cost (AC) It refers to the per-unit total cost of production. Calculated as AC = $\frac{TC}{Q}$

Where, TC = Total Cost, Q = quantity of output. These are related as:

AC is the summation of AFC and AVC.

AC = AFC+ AVC

c. Monopolistic competition is a market structure that combines elements of monopoly and competitive markets. Essentially a monopolistic competitive market is one with freedom of entry and exit, but firms can differentiate their products. Therefore, they have an inelastic demand curve and so they can set prices. Under monopolistic competition, average and marginal revenue curves are different and downward sloping as shown in the following figure:



It means that if the seller intends selling more units of the commodity, he will have to lower the price. So, the statement a monopolist can sell any quantity he likes is not true.