CBSE Class 11 Economics

Sample Paper 01 (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. If mean and coefficient of variation of a set of data is 10 and 5, respectively ,then the standard deviation is:
   a. 5
   b. 10
   c. 0.5
   d. 3

OR

For calculating range for a continuous series, the distribution should be

a. None of these
b. Inclusive
c. Exclusive
d. Either inclusive or exclusive

2. Fill in the blanks:

_____ activities are not included in national income.

3. Tally marks determine:

a. Class frequency
b. Class boundary
c. Class limit
d. Class width

4. _____ mean importance assigned to different commodities included in the index

a. None
b. Weights
c. Price
d. Both

5. Match the following. Options are as follows

a. Laspeyre's Method	i. $\|\|P_{o1} = \frac{\sum\left(\frac{q_1}{q_0}\right)w}{\sum W}$
b. Paasche's method	ii. $P_{01} = \frac{\sum P_1 q_0}{\sum P_0 q_0} \times 100$
c. Index of industrial production	iii. $P_{01} = \frac{\sum P_1 q_1}{\sum P_0 q_1} \times 100$

a. a. (i)
   b. (iii)
   c. (ii)

b. a. (iii)
   b. (ii)
   c. (i)

c. a(i), b(ii), c(iii)

d. a. (ii)
   b. (iii)
   c. (i)

6. A perfect negative correlation is signified by
   a. 2
   b. 0
   c. 1
   d. -1.0
7. **Read the following Case Study carefully and answer the questions on the basis of the same:**

   Unpublished data or literature is known as grey literature in research. (The term 'grey literature' also includes data published in a non-commercial form, such as a conference proceeding.) These data are collected by the government organisations and others, generally for their self-use or office record. Unpublished data is useful mainly in secondary research, such as literature reviews and systematic reviews. It provides pointers to new research and perhaps also research paths to avoid. Preprints are a growing form of unpublished data these days and have proved very useful in guiding research in critical areas such as COVID-19. Published sources of secondary data are government publications, semi-government publications, publications of research institutions, international publications etc.

   i. _____ data are collected from published or unpublished reports. (Primary/ Secondary)
   ii. In the case of a _____, answers are to be written by the enumerators specifically hired for the purpose. (Questionnaire/ Schedule)
   iii. _____ publish data relating to education, health, births and deaths. (Government publications/ Semi- Government Publications)
   iv. 76th round of NSSO was on _____ (Persons with disabilities and drinking water/ density of population)
8. Difference between discrete and continuous variables.
9. What are two main differences between mode and median?

   OR

   Calculate arithmetic mean with the help of following data using step deviation method.

Marks (More than)	0	10	20	30	40	50
Number of Students	30	27	20	10	5	2

10. Calculate mean deviation and its coefficient from median from the following data.

10, 80, 70, 20, 40, 55, 75

11. A man visited a newly opened hospital which sowed a pie chart indicating 100% success in heart surgeries. Total operations which hospital has done were two. Do you think pie chart is reflecting the true picture? Which value is missing?

OR

What is a false base line? How is it different from a kinked line?

12. If the coefficient of variation of X-series is 14.6% and that of F-series is 36.9% and their mean are 101.2 and 101.25 respectively, find their standard deviation.
13. The following series relates to the daily income of workers employed in a firm. Compute
    i. highest income of lowest 50% workers.
    ii. minimum income earned by top 25% workers.
    iii. maximum income earned by lowest 25% workers.

Daily Income (in Rs.)	Number of Workers
10-14	5
15-19	10
20-24	15
25-29	20
30-34	10
35-39	5

OR

Give three mathematical properties of Arithmetic Mean. Describe any one by taking hypothetical data.

14. Karl Pearson's Method is superior to Rank Correlation. Do you agree? Justify your answer.

PART - B (MICRO ECONOMICS)

15. An economic problem arises due to:
    a. Unlimited human wants and unlimited resources
    b. Limited human wants and limited resources
    c. Limited human wants

d. Unlimited human wants and limited resources

16. In perfect competition, a firm earns abnormal profit when _____ exceeds the _____?
    a. Total revenue, total fixed cost
    b. Marginal cost, marginal revenue
    c. Total cost, total revenue
    d. Average revenue, average cost
17. **Assertion:** Consumer would not be willing to buy an additional unit at the same price.
    Reason: Consumer's utility increases with the purchase of more units.
    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. Under which market situation demand curve is linear and parallel to X-axis?

    a. Perfect competition

    b. Monopoly

    c. Oligopoly

    d. Monopolistic competition

20. AR (Average Revenue) at 5 units of output is ₹ 100. TR at 6 units of output is ₹ 560. The value of MR (Marginal Revenue) at 6 units of output will be: (in ₹)

    a. 1160

    b. 60

    c. 660

    d. 460

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

    Buyers preferences between diesel and petrol cars are significantly influenced by the relative prices of these fuels. In India, people have a higher preference for diesel cars, despite their higher price compared with petrol cars. Because diesel has been much cheaper than petrol. However, in the recent past, the gap between diesel and petrol price has tended to shrink. Accordingly, the buyer's preferences are likely to change. The low price differential between petrol and diesel is expected to induce the buyers to shift from diesel cars to petrol cars.

    i. When the price of petrol goes up, the demand for a car will _____ (rise/fall).

    ii. Petrol and Diesel are _____ goods. (Substitute/complementary)

    iii. If two goods are complementary, then rise in the price of one results in:

        a. rise in demand for the other.

        b. fall in demand for the other.

        c. rise in demand for both

        d. constant demand of the other

    iv. How are the two goods related when, as a result of rise in the price of one, demand for other increases?

        a. substitute goods

b. complementary goods
c. normal goods
d. inferior goods

22. Distinguish between microeconomics and macroeconomics.

OR

Why do all economies have similar central problem?

23. Why does two indifference curves not intersect each other?
24. Government reduces the price of inputs used in the production of commodity X. Describe the chain of effects of this change in the market.
25. How does an equilibrium price of a normal commodity change when the income of its buyers fall? Explain the chain of effects.

OR

Suppose the market-determined rent for apartments is too high for common people to afford. If the government comes forward to help those seeking apartments on rent by imposing control on rent, what impact will it have on the market for apartments?

26. Explain any two factors affecting the price elasticity of demand of a commodity.
27. Answer any two of the following questions:
    a. State giving reasons whether the following statements are true or false.
        i. Average Product falls only when Marginal Product is less than Average Product.
        ii. When Total Product is constant, Average Product will fall.
        iii. Average Product will increase only when Marginal Product increases.
    b. Explain the relationship between marginal product and total product.
    c. Show a shut-down point with the help of a diagram.
    d. Explain the situation of zero elasticity of supply with the help of a diagram.
28. Answer the following questions:
    a. What is meant by supply schedule?
    b. Why is the short-run marginal cost curve U-shaped?
    c. What changes will take place in MR, when
        (i) TR is increase at an increasing rate.
        (ii) TR increase at a diminishing rate.
        (iii) TR is at its maximum point

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Solution

PART - A (STATISTICS)

1. (c) 0.5

   Explanation: The formula for Coefficient of variation is

   Coefficient of variation = $\frac{standard\ deviation}{mean} \times 100$

   It is given that coefficient of variance is 5 and mean is 10

   So, we get

   $5 = \frac{standarddeviation}{10} \times 100$

   50 = standard deviation x 100

   standard deviation = 50 / 100 = 1/2 = 0.5

   OR

   (c) Exclusive

   Explanation: For calculating the range for a continuous series distribution should be exclusive as upper and lower limits of the exclusive series represent true limits of the distribution.

2. Non-Economic
3. (a) Class frequency

   Explanation: See figure below

Sports	Tally	No of Students
Basketball	𝍸 I	6
Ice Hockey	𝍸	5
Baseball	IIII	4
Soccer	II	2

4. (b) Weights

   Explanation: The term weight refers to the relative importance of the different items in the construction of index numbers.

5. (d)
   a. (ii)
   b. (iii)
   c. (i)

   Explanation:
   i. Laspeyre suggested that for the purposes of calculating Price Indices, the quantities in the base year should be taken as weights.
   ii. Paasche's method of calculating Price Index, the quantities of the current year are used as weights.
   iii. The Index of Industrial Production (IIP) is an index for India which details out the growth of various sectors in an economy such as mining, electricity and manufacturing.
6. (d) -1.0

   Explanation: When there is perfect negative correlation, the value of correlation coefficient will be -1.
7. i. Secondary Data
   ii. Schedule
   iii. Semi- Government Publications
   iv. Persons with disabilities and drinking water
8. **Discrete variables:** Discrete variables are those which only take values as whole number. Such variables cannot take fraction values. In this sense, they are discontinuous. In other words, they jump from one whole value to another. For example, number of persons in a family, number of students in a class, etc. are discrete variables.

   Continuous variables: Continuous variables can take both whole number values as well as fraction values.For example, age, height, weight, etc. are continuous variables. Consider, weight of a person. It can take values as 2 kg, 2.5 kg, 2.35 kg and so on. As against discrete variables, the values of continuous variables do not increase in jumps rather they increase continuously
9. The two main differences between mode and median are:

Mode	Median
(i) It is that variable which is repeated the greatest number of times, i.e. Mode gives us the typical value in a distribution.	It is the middle value of a particular series.

(ii) It does not divide the series. It gives the value corresponding to the maximum frequency.	It divides the series into two equal parts.

OR

First of all convert the more than cumulative frequency series into ordinary one and then calculate the value of arithmetic mean.

Calculation of arithmetic mean using step deviation method

Marks	**Frequency (f)**	**Mid-Value (m)** m=(L1+L2)/2	**dm=m-A (A=25)**	**d'm=dm/c (c=10)**	**fd'm**	
0-10	30-27=3	5	-20	-2	-6	-13
10-20	27-20=7	15	-10	-1	-7	
20-30	20-10=10	25	0	0	0	
30-40	10-5=5	35	10	1	5	17
40-50	5-2=3	45	20	2	6	
50-60	2	55	30	3	6	
	$\Sigma f = 30$				$\Sigma fd'm = 4$	

Here,

A = 25 , $\Sigma fd'm = 4$, $\Sigma f = 30$, c =10

Now, $\overline{X} = A + \frac{\Sigma fd'm}{\Sigma f} \times c$

$= 25 + \frac{4}{30} \times 10$

= 25 + 1.33

= 26.33

Therefore,arithmetic mean of given data is 26.33

10. Here, the given data is not in ascending order, so we have to arrange them in ascending order for calculating the median. So, the distribution will take the following form: 10 20 40 55 70 75 80.

In this series, the no. of observation i.e. n = 7 which is odd.

Therefore, Median = $\left(\frac{n+1}{2}\right)$ th item $= \left(\frac{7+1}{2}\right)$ th item = 4th item = 55

Calculation of Mean Deviation and its Coefficient from Median

S.No.	Size	Deviation from Median, $\lvert D\rvert \lvert X - M\rvert$
1	10	45
2	20	35
3	40	15
4	55	0
5	70	15
6	75	15
7	80	25
n = 7		$\Sigma\lvert D\rvert$ = 155

Applying the formula for mean deviation and coefficient of MD we get

Mean Deviation from Median = $(MD_M) = \frac{\Sigma|D|}{n} = \frac{155}{7}$ = 22.14

Coefficient of MD from Median $= \frac{\text{MD}_\text{M}}{\text{Median}} = \frac{22.14}{55} = 0.4$

11. No, Pie chart is not reflecting the true picture. There was a motive of misrepresentation and manipulation of data. It reflects dishonesty of the hospital managers. In my opinion, they should have used pie chart but mentioning the absolute number as well or the successful extent of the two operations in absolute terms.

OR

Usually, when we draw any graph, the scale on which the graph is measured starts from zero on the y-axis. However, under the situations when the data to be plotted on graph starts from a value which is far above zero, results in the problem of shortage of space on graph. To overcome this problem of shortage of space, a false base line is plotted. False base line is a line which is drawn to grasp the attention of the reader on the fluctuations which usually remains unnoticed. A kinked line is used on x axis for the same purpose for which false base line is used for y axis. It means when variable starts from a higher value, we use kinked line and when frequency starts with a first higher number followed

by smaller gaps, we use false base line.

12. i. For series X, we have been given the coefficient of variation and the arithmetic mean. By substituting the values in the formula for coefficient of variation, we can find the standard deviation.

Coefficient of Variation (CV) = $\frac{\sigma}{\overline{X}} \times 100$

$\because$ CV = 14.6 and $\overline{X}$ = 101.2,

on substituting the values, we get

$14.6 = \frac{\sigma}{101.2} \times 100 \Rightarrow \sigma = \frac{14.6 \times 101.2}{100}$

$\Rightarrow \quad \sigma = \frac{1477.52}{100} = 14.78$

ii. For series 'Y' we have been given the values of CV and Arithmetic Mean. By applying the formula for CV, we get

CV = $\frac{\sigma}{X} \times 100$

$\because$ CV = 36.9 and $\overline{X}$ = 101.25,

on substituting the values, we get

$\therefore \quad 36.9 = \frac{\sigma}{101.25} \times 100 \Rightarrow \sigma = \frac{36.9 \times 101.25}{100}$

$\Rightarrow \quad \sigma = \frac{3736125}{100} = 37.36$

- Therefore the standard deviation for series X is 14.78 and that of series Y is 37.36.

13.

Daily Income	**Exclusive Group**	**Number of Workers (f)**	**Cumulative Frequency (cf)**
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
		$n = \Sigma f = 65$	

Calculation of Quartiles

(i)	(ii)	(iii)
The second quartile is the 50th percentile or the Median	The *third quartile* corresponds to the value that lies halfway between the median and the highest value in the distribution. It, therefore, marks the region which encloses the 75% of the initial data or 25% of the end data.	The *first quartile* corresponds to the value that lies halfway between the median and the lowest value in the distribution.Hence, it marks the region which encloses 25% of the initial data.
To find the highest income of the lowest 50% of workers, we calculate second quartile i.e., median (M)	To find the minimum income earned by the top 25% of workers, we calculate upper quartile (Q_3).	To find the maximum income earned by the lowest 25% workers, we calculate lower quartile (Q_1)
m = Size of $\left(\frac{n}{2}\right)$ th item = $\left(\frac{65}{2}\right)$ th item = 32.5th item 32.5th items lie in class 24.5-29.5 $M = l_1 + \frac{\frac{n}{2} - cf}{f} \times c$ $= 24.5 + \frac{32.5-30}{20} \times 5$ $= 24.5 + \frac{2.5}{20} \times 5$ = 24.5 + 0.6 $\Rightarrow$ M = 25.1	Q_3 = Size of 3 $\left(\frac{n}{4}\right)$ th item = $\left(\frac{3\times65}{4}\right)$ th item = 48.75th item 48.75th item lies in class interval 24.5-29.5 $\therefore Q_3 = l_1 + \frac{\frac{3}{4}n - cf}{f} \times c$ $= 24.5 + \frac{48.75-30}{20} \times 5$ $= 24.5 + \frac{18.75\times5}{20}$ = 24.5 + 4.7 $\Rightarrow$ Q_3 = 29.2	Q_1 = Size of $\left(\frac{n}{4}\right)$ th item = $\left(\frac{65}{4}\right)$ th item = 16.25th item 16.25th item lies in class interval 19.5-24.5 $Q_1 = l_1 + \frac{\frac{n}{4} - cf}{f} \times c$ $= 19.5 + \frac{16.25-15}{15} \times 5$ $= 19.5 + \frac{1.25\times5}{15}$ = 19.5 + 0.42 $\Rightarrow$ Q_1 = 19.92

OR

1. The sum of the deviations, of all the values of x, from their arithmetic mean, is zero. Justification: $\Sigma f_i(x_i - \bar{x}) = \Sigma f_i x_i - \bar{x}\ \Sigma f_i = 0$. It happens because arithmetic mean is a point of balance. i.e. the sum of positive deviations from mean is equal to the sum of negative deviations.

2. The sum of square of the deviations of the items from their Arithmetic mean is minimum. $\sum(X-\bar{X})^2$ is minimum.
3. Mean of the combined series - If the arithmetic mean and number of items of two or more than two related groups are given, then we can compute the combined means of the series as a whole.
4. If each observation of a series is increased or decreased by a constant, say k , then the arithmetic mean of the new series will also get increased or decreased by k.
5. If all the items in a series are multiplied or divided by a constant, then the mean of these observations also gets multiplied or divided by it.

14.
- The Pearson correlation coefficient is the most widely used. It measures the strength of the linear relationship between normally distributed variables. When the variables are not normally distributed or the relationship between the variables is not linear, it may be more appropriate to use the Spearman rank correlation method.
- It gives an answer for any number of figures while rank correlation can't be used if n is more than 30.
- If many numbers are repeating, it becomes still more difficult to use rank correlation.
- But if we do not know the figures but ranks, then it is advisable to use rank correlation.

PART - B (MICRO ECONOMICS)

15. (d) Unlimited human wants and limited resources

Explanation: Unlimited human wants and limited resources are the root cause of the economic problem. Even the Richest person on the earth is having unlimited wants and limited resources. Every economy developed or developing are facing these problems.

16. (d) Average revenue, average cost

Explanation: When AR> AC , the firm will earn abnormal profits, and since the cost is less, the producer will produce more to get more revenue. When AR becomes equal to AC then the firm starts earning normal profits and the producer will not like to go beyond this level as after this AC will become greater than AR and producer starts incurring losses.

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

Explanation: Assertion is correct statement but reason is wrong statement.

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: As a firm under this competition is a price taker, i.e , which is fixed by the industry (demand and supply forces) . Therefore each firm is a price taker and faces a perfectly elastic demand curve.

20. (b) 60

    Explanation: TR at 5 units of output - AR $\times$ Q

    $TR_5 = 100 \times 5 = 500$

    $TR_6 = 560$

    $MR_6 = TR_6 - TR5_5$

    MR = 560 - 500

    = 60

21. i. Fall
    ii. Substitute
    iii. (b) fall in demand for the other
    iv. (a) Substitute goods

22. Differences between microeconomics and macroeconomics are given below

Basis	**Microeconomics**	**Macroeconomics**
Meaning	Microeconomics studies economic issues and problems at the level of an individual firm, an individual	Macroeconomics studies economic issues and problems at the level of the economy as a whole.

	household etc.	
Tools	Demand and supply	Aggregate demand and aggregate supply
Concern	It is basically concerned with the determination of output and price for an individual firm or industry.	It is basically concerned with the determination of aggregate output and general price level in the economy as a whole.
Focus	Its focus is on the maximization of individual's gain.	Its focus is on the maximization of social welfare.
Scope	It has a narrow scope, i.e. an individual person, an individual market etc.	It has a very wide scope, i.e. a country.
Other name	It is also known as Price Theory	It is also known as Income and Employment Theory.
Examples	Individual income, individual output.	National income, national output.

OR

All economies whether developed or developing, have similar central problem because one or more of their resources (land, labour, capital and entrepreneurship) are limited and these resources can be put to alternative uses. The wants of the economies are unlimited and these wants have to be maximised by putting the scarce resources to the best possible use.. Therefore all economies have to face the basic economic problem of choice (what to produce, how to produce and for whom to produce).

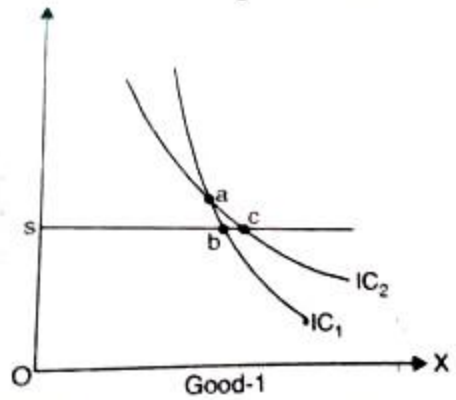
23. As two indifference curve cannot represent the same level of satisfaction, they cannot intersect each other. It means only one indifference curve will pass through a given point on an indifference map.
What happens, if indifference curves are shown to be intersecting, as in the following diagram:
In the given diagram,

Satisfaction level at point a = Satisfaction level at point b (points on the same indifference curve (1) has same level of satisfaction.)

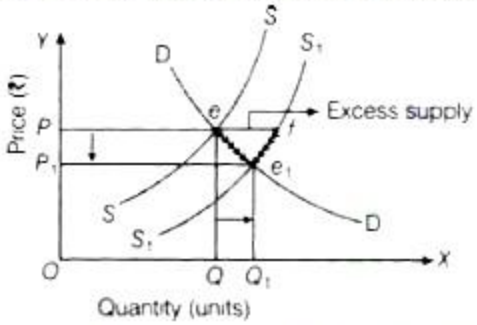
Satisfaction level at point a =Satisfaction level at point c

Point on same Indifference curve 2 has same level of satisfaction.

b=c which is not true as at point c consumer is getting more of good 1. So according to monotonic principle both these points cannot be preferred by the consumer.



24. When prices of the inputs fall, there will be an increase in the supply of goods. When the supply of a commodity increases keeping demand constant, the supply curve will shift to the right causing fall in equilibrium price and rise in equilibrium quantity. This can be shown with the help of a diagram given below:



It can be seen from the given diagram that, initial demand curve DD and initial supply curve SS, intersect at point e. This point is the equilibrium point and we get equilibrium price equal to OP and equilibrium quantity equal to OQ.

Now due to the increase in supply, keeping demand constant, the supply curve will shift to the right to S_1S_1, causing excess supply at initial price OP, equal to 'ef'. It creates competition among firms because they cannot sell all of their output at the existing price. So, this excess supply will cause a fall in price which results in an expansion in demand (by Law of Demand) and contraction in supply (by Law of Supply). This process will continue till the time new equilibrium is reached at point e_1 with a price equal to OP_1 and quantity equal to OQ_2. This new equilibrium price is less than the initial equilibrium

price and the new equilibrium quantity is greater than the initial equilibrium price.

25. For a normal commodity, a decrease in income of the buyers means a decrease in its demand. Accordingly, the demand curve shifts leftward and both equilibrium price and equilibrium quantity tend to decrease.

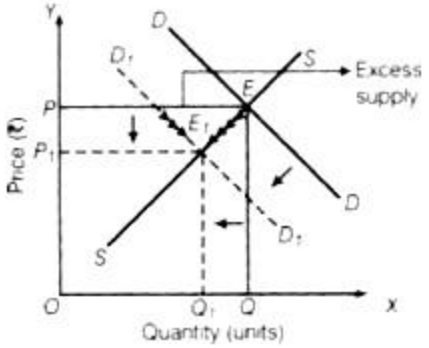
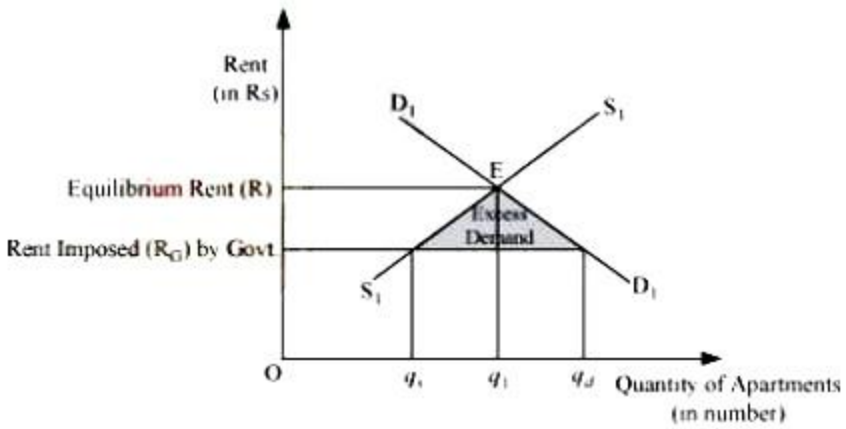


Diagram showing leftward shift in demand curve

In the above diagram, actual demand curve DD and actual supply curve SS intersect at point E. Therefore E is the initial equilibrium point and at this point, the price is equal to OP and quantity is equal to OQ. When the income of buyer decreases, the demand for normal goods will also decrease as a result of which demand curve will shift leftward from DD to D_1D_1. Due to this shift, equilibrium price and equilibrium quantity both will decrease from OP to OP_1 and from OQ to OQ_1 respectively. Equilibrium point will shift leftwards from E to E_1. At this new equilibrium point demand for the commodity is again equal to its supply.

OR



The above figure depicts an equilibrium and an effect of price ceiling (maximum rent).A price ceiling is a government or group-imposed price control, or limit, on how high a price is charged for a product, commodity, or service. Governments use price ceilings to

protect consumers from conditions that could make commodities prohibitively expensive.

The market demand for apartments is depicted by the D_1D_1 curve and the supply of apartments is depicted by S_1S_1. The equilibrium price determined is R and the equilibrium quantity is q.

If the government steps in and imposes rent ceiling (maximum rent) equivalent to ^{R}G, then at this rent, there will be excess demand. The quantity of apartments demanded will be q_d. Whereas, the quantity of apartments supplied is q_s. So, there exists an excess demand equivalent to $q_d - q_s$. At the rate ^{R}G, common people can afford apartments to live in, which earlier they were not able to. However, besides this positive effect of the imposition of maximum rent, it might happen that some landlords indulge in the practice of black marketing and offer apartments for rent at a comparatively higher price.

26. 1. Nature of commodities:

A. Necessities: Demand for necessaries is less elastic. Without these commodities, we can't think of our existence, whatever may be the price, demand for necessaries remain stable. For eg. food grains, vegetables, milk etc.

B. Comforts: Price elasticity of demand for comforts is generally elastic as consumers can postpone its consumption . Eg. fan, refrigerator etc.

C. Luxuries: Demand for luxuries is relatively more elastic as compared to demand for comforts. eg. AC, DVD etc.

2. Existence of substitutes: The greater ease with which substitute can be found for a commodity, the greater will be the price elasticity of demand and vice-versa. The reason being when substitutes are available easily for a product, even a small rise in the price of a commodity will induce the buyers to move towards the substitutes.

27. Answer any two of the following questions:

a. i. True, Average Product (AP) falls only when Marginal Product (MP) is less than AP because AP is per unit of Total Product (TP) and MP is the change in TP.

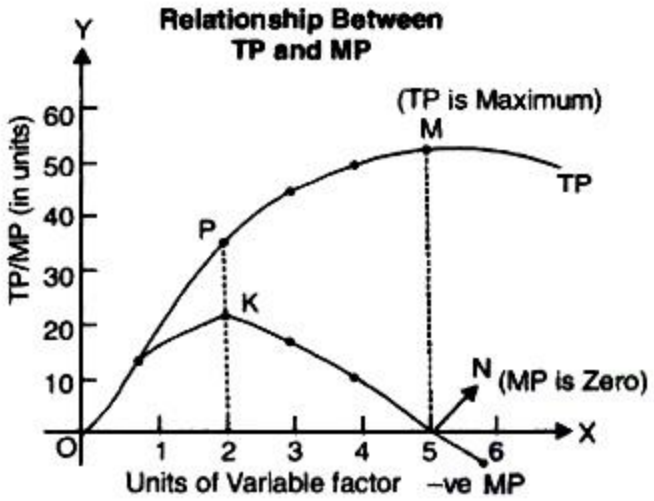
ii. True, when Total Product (TP) becomes constant, then it implies that when an additional variable factor is employed, then also Total Product will not change.

iii. False, Average Product rises even when Marginal Product falls, and Average Product and Marginal Product are equal at the maximum point of Average Product.

b. Marginal product, also called marginal physical product, is the change in total output as one additional unit of input is added to production. Total product is the overall quantity of output that a firm produces, usually specified in relation to a variable input.

i. When MP increases, TP increases at an increasing rate.

ii. When MP is constant, TP increases at a constant rate.



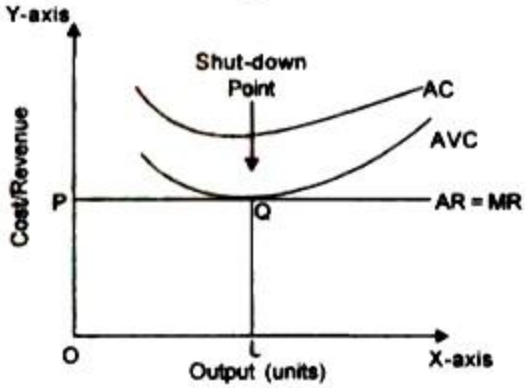
iii. When MP decreases, TP increases at a diminishing rate.

iv. When MP is zero, TP is maximum.

v. When MP is negative, TP declines.

c. A shut-down point is a level of operations at which a company experiences no benefit for continuing operations and therefore decides to shut-down temporarily (or in some cases permanently). Shut-down point occurs when a firm is just able to cover its variable costs, incurring the loss of the fixed cost of production.

Diagrammatical presentation of shut-down point,

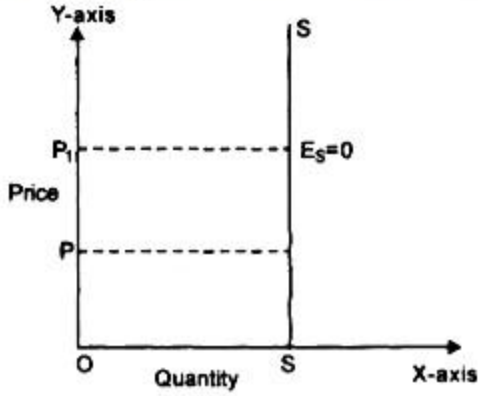


Shut-down point occurs at point 'Q'. Here,AR = AVC = LQ = OP. The firm is incurring the loss of AFC Per unit of output. Its total loss = TFC for a given level of output.

d. A service or commodity has a perfectly inelastic supply if a given quantity of it can be

supplied whatever might be the price. The elasticity of supply for such a service or commodity is zero. A perfectly inelastic supply curve is a straight line parallel to the Y-axis.

It refers to a vertical straight line supply curve showing constant supply, no matters what the price is. As shown in the following figure.



The figure shows that the quantity supplied remains constant (OS) whether the price of the commodity is OP or OP_1.

28. Answer the following questions:
    a. Supply schedule is a table showing a relationship between price and quantity supplied of a commodity. Given below is a supply schedule. As price increases qty supplied increases and vice versa.

Price	Qty Supplied
4	10
6	14
10	20

    b. The short-run marginal cost curve is U-shaped because of the law of variable proportions. In the short run as the employment of variable factor increases (fixed factor being constant), in the initial stage, MC decreases owing to increasing return, but finally, MC tends to rise in accordance with the law of variable proportion. Hence, MC is U shaped curve.
    c. The following changes will take place in MR:

    (i) MR will increase

    (ii) MR will decrease, but will remain positive.

    (iii) MR is zero, when TR is maximum