CBSE Class 11

Economics

Sample Paper 06 (2019-20)

Maximum Marks: 80

Time Allowed: 3 hours

General Instructions:

i. All the questions in both sections are compulsory. Marks for questions are indicated against each question.
ii. Question numbers 1 - 10 and 18 - 27 are very short-answer questions carrying 1 mark each. They are required to be answered in one word or one sentence each
iii. Question number 11 - 12 and 28 - 29 are short-answer questions caring 3 marks each. Answers to them should not normally exceed 60-80 words each
iv. Question number 13 - 15 and 30 - 32 are also short-answer questions carrying 4 marks each. Answers to them should not normally exceed 80-100 words each
v. Question number 16 - 17 and 33 - 34 are long answer questions carrying 6 marks each. Answers to them should not normally exceed 100-150 words each
vi. Answer should be brief and to the point and the above word limit be adhered to as far as possible.

Section A

1. Fill in the blanks:

   _____ in economics is short supply in relation to the demand.

2. What is loss of information in classified data?

3. If r is near to zero (i.e.) 0.1,-0.1, (or) 0.2 there is

   a. high degree of correlation

   b. None

   c. less degree of correlation

d. Both

4. State the type of correlation when two variable change in the same ratio.

OR

In which correlation, the entire set of independent and dependent variables is simultaneously studied?

5. Which number of tally bar will cross out all previous tallies
   a. 6
   b. 5
   c. 4
   d. 3
6. Fill in the blanks:

   Index number is equals to _____ of price relatives.

7. State true or false:

   Price Index can't go below base year price.

8. Fill in the blanks:

   Diagrams two types are _____ and _____.

9. Match the following:

(a) The width of the class is called	(i) Frequency
(b) Statistical series	(ii) Bivariate Distribution
(c) Frequency distribution	(iii) Spatial
(d) Number of times which repeats itself in the series	(iv) class interval

10. Fill in the blanks:

    Production includes all those activities which are undertaken to produce goods and services for generation of income by enhancing utility of _____ and _____.

11. Which of the following errors is more serious and why?

    a. Sampling error
    b. Non-sampling error

12. Calculate median from the following data
    20, 25, 30, 15, 17, 35, 26, 18, 40, 45, 50

OR

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

13. Give the properties of a good measure of dispersion.

14. Construct a histogram for the following frequency distribution.

Mid-points	Frequency
15	6
25	10
35	15
45	8
55	12
65	3
75	18

OR

What are time-series graph? What are its other names?

15. Calculate standard deviation and its coefficient from the following data through assumed mean method.

Values	10	15	25	20	30	40	50	10

16. Calculate Q_1 and Q_3 from the following table.

Wages (in Rs.)	**Number of Workers**
0-5	4
5-10	6
10-15	3
15-20	8
20-25	12
25-30	7

OR

Define Mode. Discuss its merits and demerits.

17. 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

18. Which type of science is economics?

19. State true or false:

MR = MC is a sufficient condition for the producer to be in equilibrium.

20. Match the following:

(a) In case of two commodities a consumer strikes equilibrium when	(i) Increase in the number of buyers
(b) Number of Budget sets of a consumer are	(ii) Marginal utility becomes more than price
(c) A consumer demands more quantity of a	(iii) Limited, depends upon price

commodity when price decreases because	and income of consumer
(d) Demand curve shifts rightward in case of	(iv) $\frac{MUx}{P_X} = \frac{MU_Y}{P_y} = MU_m$

21. The general shape of TPP in the short run is
    a. Inverse U shaped
    b. Hyperbola
    c. V- shaped
    d. U shaped
22. Fill in the blanks:

    _____ statements cannot be verified.

    OR

    Fill in the blanks:

    Microeconomics main instruments are _____ and supply.

23. Fill in the blanks:

    _____ of a given resource can be defined as the value of the next best use to which that resource could be put.

24. Price elasticity of demand for wheat is equal to unity and a household demands 40 Kg of wheat when the price is Rs.1 per kg. At what price will the household demand 20 kg of wheat?
    a. 4
    b. 6
    c. 1.5
    d. 5
25. Fill in the blanks:

    _____ products are identical in quality, shape, size, color, design, flavor, taste, packing, etc.

26. Which of the following is not an assumption of PPC?

    a. Resources are fully and efficiently utilised.

b. Resources in the economy are fixed.

c. Resources are equally efficient in production of all products.

d. There is no change in level of technology.

27. The relationships between AR and MR is when price falls is
    a. Both rise in sales
    b. AR falls but MR rises

    c. Both decline with increase in sales.

    d. AR rises but MR falls

28. Explain in the main feature of barriers to the entry of firms.

OR

What is the minimum price ceiling? Explain its implications.

29. The Price Elasticity of Demand for a good is (-) 0.4. If its price increases by 5% by what percentage will its demand fall? Calculate.

30. The ratio of elasticity of supply of commodities A and B is 1:1.5. 20 percent fall in the price of A results in a 40 percent fall in its supply. Calculate the percentage increase in the supply of B if its price rises from Rs.10 per unit to Rs.11 per unit.

31. Why do Indifference curves not intersect each other?

OR

What are the assumptions on which law of Diminishing Marginal Utility is Based?

32. From the following table calculate price elasticity of demand by percentage method.

Price of X (Rs.) Per unit	**Total expenditure (Rs.)**
4	600
5	525

33. Complete the following table.

Output (units)	**Marginal Cost (MC) (Rs)**	**Average Variable Cost (AVC) (Rs)**	**Average Fixed Cost (AFC) (Rs)**	**Average Cost (AC) (Rs)**
1	-	-	-	140
2	-	45	-	-
3	45	-	30	-
4	-	48	22.5	-
5	-	52	18	-

34. Explain the chain effects on demand, supply and price caused by leftward shift of demand curve.

OR

Compare between perfect competition and monopoly.

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Solution

Section A

1. Scarcity

2. 'Loss of information' is a major drawback of the classified data. The classification or grouping of raw data into classes makes it more concise and understandable. But simultaneously there exists loss of information. The calculations involved in the classified data or the continuous series are based on the class midpoints. The items in such series cannot be exactly measured and consequently, an individual observation loses its importance during the statistical calculations. Further, the statistical calculations are based on the values of the class marks, ignoring the exact observations of the data leads to the problem of loss of information.

3. (c) less degree of correlation
   Explanation: As the range of correlation is 0 to 1(less to high degree correlation)

4. The type of correlation when two variable change in the same ratio is said to be Perfect correlation.

   OR

   In case of multiple correlations, when relationship among three or more than three variables is studied, the entire set of independent and dependent variables is simultaneously studied.

5. (b) 5
   Explanation: Tally marks are a quick way of keeping track of numbers in groups of five. One vertical line is made for each of the first four numbers; the fifth number is represented by a diagonal line across the previous four.

6. Average

7. False
8. Bar diagram, Circular/Pie diagram
9. (a) - (iv), (b) - (iii), (c) - (ii), (d) - (i)
10. Good, services
11. Non-sampling errors are more serious than sampling errors because a sampling error can be minimized by taking a large sample. It is difficult to minimize non-sampling error even by taking a large sample. A non-sampling error arises because of errors in the collection of data such as measurement error, non-response error, misinterpretation by respondents and calculation error.
12. Since this is an individual series, we have to arrange the values in ascending or descending order. In this case, we are arranging them in ascending order.

Calculation of Median

S.No.	Values
1	15
2	17
3	18
4	20
5	25
6	26
7	30
8	35
9	40
10	45
11	50
n=11	

Here, a number of items represented by n=11 which is odd. In case of odd number of items, Median = Middle term of the distribution. The formula is as given below:

$\therefore$ Median $(M) =$ Size of $\left(\frac{n+1}{2}\right) th\ item$

$=$ Size of $\left(\frac{11+1}{2}\right) th\ item$

$=$ Size of $\left(\frac{12}{2}\right) th\ item$

=Size of 6th item

6th item is 26. So, median=26

OR

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

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

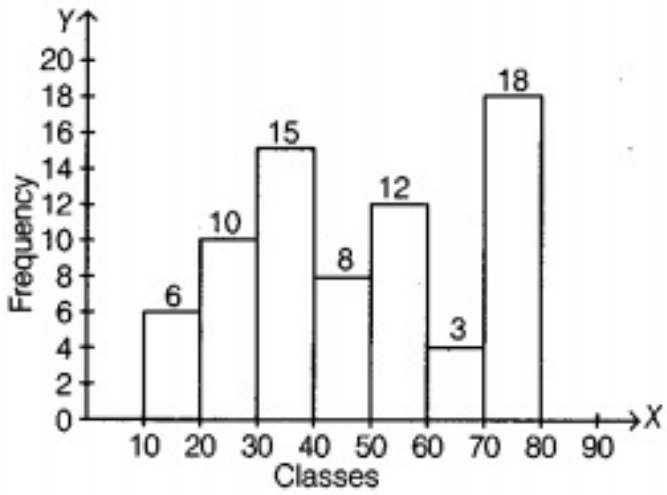
13. Properties of a good measure of dispersion are:

    i. It should be based on all the observations.
    ii. It should be rigidly defined.
    iii. It should be easy to calculate and easy to understand.
    iv. It should be least affected by sampling fluctuations.
    v. It should be capable of further algebraic treatment.
    vi. It should not be affected by extreme values.

14. **The distribution will take the following form**

Mid-points	Frequency
10-20	6
20-30	10
30-40	15
40-50	8
50-60	12
60-70	3
70-80	18

Step 4. This distribution is represented by the given histogram



OR

When we observe the values of a variable at different period of time, the series so formed is known as Time series. We take the time on X-axis and value of the variable on Y-axis. Join the points by straight lines.

This is known as Line graph or the graph of Time series. A time-series graph is also known as Historigram.

This is the simplest and easiest graph, and no technical skill is needed in its construction. More over, it enables an individual to present more information in a more precise form than any other kind of chart can do. Two or more variables can be shown on the same graph and thus comparison becomes easy. Graphs of Time series can be constructed either on a natural scale or on a ratio scale. In natural scale, absolute changes from one period to another are shown, whereas in a ratio scale the relative changes are shown.

15. Let assumed mean, (A) = 30

Calculation of Standard Deviation and its coefficient

Here, we take deviations from the assumed mean and considering deviation 'd' as the new variable, we proceed to find standard deviation.

values(X)	**d(X - A), A = 30**	**d^2**
10	-20	400
15	-15	225
25	-5	25
20	-10	100
30	0	0
40	10	100
50	20	400
10	-20	400

n = 8	Σd = -40	Σd^2 = 1650

Here, Σd^2 = 1650, n = 8, Σd = -40

Standard Deviation (σ) = $\sqrt{\frac{\Sigma d^2}{n} - \left(\frac{\Sigma d}{n}\right)^2}$

$\Rightarrow \quad \sigma = \sqrt{\frac{1650}{8} - \left(\frac{-40}{8}\right)^2}$

$= \sqrt{206.25 - (-5)^2}$

$= \sqrt{206.25 - 25} = \sqrt{181.25} = 13.463$

and Mean $(\overline{X}) = A + \frac{\Sigma d}{n} = 30 + \frac{(-40)}{8}$ = 30 - 5 = 25

$\therefore$ Coefficient of $\sigma = \frac{\sigma}{\overline{X}}$

$= \frac{13.463}{25}$ = 0.538

16.

Wages	**Number of Workers**	**Cumulative Frequency (cf)**
0-5	4	4
5-10	6	10
10-15	3	13
15-20	8	21
20-25	12	33
25-30	7	40
	$n = \Sigma f = 40$	

Calculation of Q_1 and Q_3

Q_1	**Q3**
First Quartile number (q_1)= Size of $\left(\frac{n}{4}\right)$ t h item	Third Quartile number (q_3)= Size of $\left(\frac{3n}{4}\right)$ th item
$= \left(\frac{40}{4}\right)$ th item=10th item	$= \left(\frac{3\times 40}{4}\right)$ th item =30th items

10th item will correspond to the class 5-10. So, l_1=5, cf=4, f=6 and c=5 Now, $Q_1 = l_1 + \frac{\frac{n}{4} - cf}{f} \times c$ $= 5 + \frac{10-4}{6} \times 5$ $5 + \frac{6 \times 5}{6} = 5 + \frac{30}{6}$ $= 5 + 5 \Rightarrow Q_1 = 10$	30th item will correspond to the class 20-25. So, l_1=20, cf=21, f=12 and c=5 Now, $Q_3 = l_1 + \frac{\frac{3n}{4} - cf}{f} \times c$ $= 20 + \frac{30-21}{12} \times 5$ $= 20 + \frac{45}{12} = 20 + 3.75$ $\Rightarrow Q_3 = 23.75$

OR

Mode is the most frequent item in the series. It is the value occurring most frequently in a set of observations and around which other items of the set cluster most densely.

Merits:

a. It is easy to calculate and simple to understand.
b. It is not affected by the extreme values. It can be calculated even if these extreme observations are not known.
c. The value of mode can be can be determined graphically through histogram.
d. Its value can be determined in case of open-end class interval.
e. The mode is the most representative of the distribution as it is the value around which there is more concentration of observations.
f. Mode can be used to describe quantitative as well as qualitative data.

Demerits:

a. It is not suitable for further algebraic treatment. So, from the modal values, we cannot determine the overall mode of the combined data.
b. The value of mode can not always be determined. It is difficult to locate modal class in the case of bi-modal and multi-modal distributions.
c. The value of mode is not based on each and every items of the series.
d. The mode is not rigidly defined as there are several methods for calculating its value.

e. It is difficult to calculate when one of the observations is zero or the sum of the observations is zero.
f. As compared to mean, mode is affected to a great extent, by sampling fluctuations.

17. **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, ΣX = 534, Σx^2 = 143.5, ΣY = 540, Σy^2 = 194, Σ 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.

18. Economics is a social science because it deals with human behaviour and studies the activities of people and how people deal with the problems of scarcity, i.e. economic problems.

19. False, Besides this condition, MC curve must be rising after MC = MR output level.

20. (a) - (iv), (b) - (iii), (c) - (ii), (d) - (i)

21. (a) Inverse U shaped Explanation:

    It is inverse U shaped because the initially the total product increases at a increasing rate, and then it increases at a diminishing rate and finally the total product starts decreasing.

22. Normative

OR

Demand

23. Opportunity cost

24. (c) 1.5
    Explanation: If elasticity of demand is equal to 1.

    then,

    % change in price = % change in quantity

    there is 50% fall in quantity from 40 to 20 kg.

    hence there should be 50% increase in price

    new price = 1.5

25. Homogeneous

26. (c) Resources are equally efficient in production of all products.
    Explanation: Four key assumptions of PPC are:

    Only two goods can be produced, Full employment of resources, Fixed resources and Fixed technology

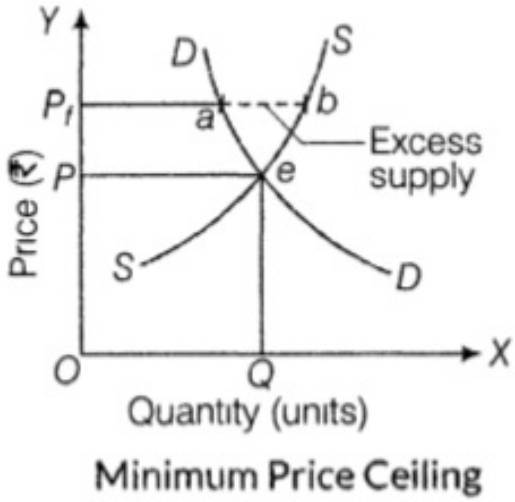
27. (c) Both decline with increase in sales.
    Explanation: Both MR and AR falls with increase in sales. However fall in MR is double than that in AR. MR curve is steeper than the AR curve.

28. i. The main reason why the number of firms is small is that there are barriers which prevent entry of firms into industry.
    ii. Patents, large capital, control over the crucial raw material etc, prevent new firms from entering into industry.
    iii. Only those who are able to cross these barriers are able to enter.

OR

A price ceiling occurs when the government limits how much producers can charge for a good. It is called a ceiling because you cannot charge more than the amount specified by the government. This is set by the government to protect the interest of the seller.

Price floor is set above the equilibrium price which creates 'excess supply' in the market as shown in the diagram given below.



Minimum Price Ceiling

In the above diagram, OP is equilibrium price because at this price demand is equal to supply. Further OP_f is the price floor which creates excess supply equal to ab.

Implications of minimum price ceiling:

i. It assures the farmers that whatever they produce will get sold in the market.
ii. It secures higher income for producers and labours (i.e. labour laws are an example of price floor).
iii. The end result is high prices for consumers.

29. $$E_d = \frac{\text{Percentage Change in Quantity Demanded}}{\text{Percentage Change in Price}}$$
$$(-)0.4 = \frac{\text{Percentage change in quanuty demanded}}{5}$$

∴Percentage change in demand $= -0.4 \times 5 = -2$

∴ Demand falls by 2%.

30. Price elasticity of supply (PES) measures the responsiveness of quantity supplied to a change in price. It is necessary for a firm to know how quickly, and effectively, it can respond to changing market conditions, especially to price changes.

$\frac{E_{SA}}{E_{SB}} = \frac{1}{1.5}$...(i)

$E_{SA} = \frac{\%\text{ Change in } Qs \text{ of } A}{\%\text{ Change in Price of } A}$

$E_{SA} = \frac{40}{20}$ = 2 Put in eq. (i)

$\frac{2}{E_{SB}} = \frac{1}{1.5}$

$2 \times 1.5 = E_{SB}$

$3.0 = E_{SB}$

$E_{SB} = \frac{\%\text{ Change in } Qs \text{ of } B}{\%\text{ Change in Price of } B}$

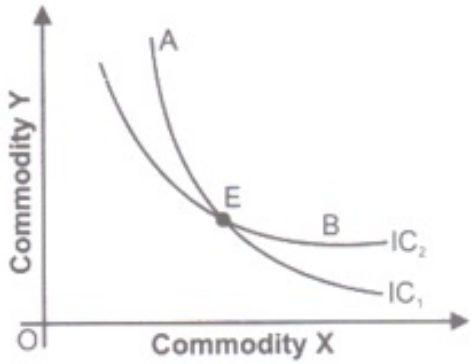
% Change in Q_S of B $= \frac{(11-10)}{10} \times 100$ = 10%

$3 = \frac{\%\text{ Change in } Qs \text{ of } B}{\%\text{ Change in Price of } B}$

$3 = \frac{\%\text{ Change in } Qs \text{ of } B}{10}$

30 = % Change in Q_S of B.

31. i. Two IC's cannot intersect each other. This property is proved by Contradiction Method. First we assume that they intersect each other and then show that this assumption leads to an absurd conclusion. Let us assume that IC1 intersects IC2 at point E shown in the figure given here.



ii. Let point A be a point on IC1 and point B on IC2. Since A and E lie on IC1, the consumer will be indifferent between points E and A (A = E). Similarly, B and E lie

on IC2, the consumer will be indifferent between point E and B (B = E).

iii. Based on the assumption of transitivity as A =E and B = E, then the consumer must be indifferent between A and B (A = B) but this is not possible as A and B lie on two different ICs and represent different levels of satisfaction. Therefore, IC cannot intersect each other.

OR

In economics, the law of diminishing marginal utility states that the marginal utility of a good or service declines as its available supply increases. It is based on the following assumptions:-

i. Same quality and normal size of units.
ii. Continuous consumption.
iii. Normal consumer.
iv. No change in income, taste and fashion.
v. No change in price.
vi. Utility can be measured in cardinal numbers i.e., 1, 2, 3 and so on.

32.

Price (Rs.)	Total expenditure (Rs.)	Quantity Demanded (units)
4	600	150
5	525	105

Price elasticity of demand = $\frac{\triangle Q}{\triangle P} \times \frac{P}{Q}$

$\triangle Q = -45$

$\triangle P = 1$

P= 4 and Q = 150

price elasticity of demand = $\frac{-45}{1} \times \frac{4}{150}$

= -1.2

Price elasticity of demand = -1.2

33.

MC=Marginal Cost ,AVC= Average Variable Cost

Cost Schedule

Output ((units)	(MC)(Rs)	(AVC) (Rs)	(AFC) (Rs)	(AC) (Rs)	(TVC)((Rs)
1	50	50	90	140	50
2	40	45	45	90	90
3	45	45	30	75	135
4	57	48	22.5	70.5	192
5	68	52	18	70	260

34.

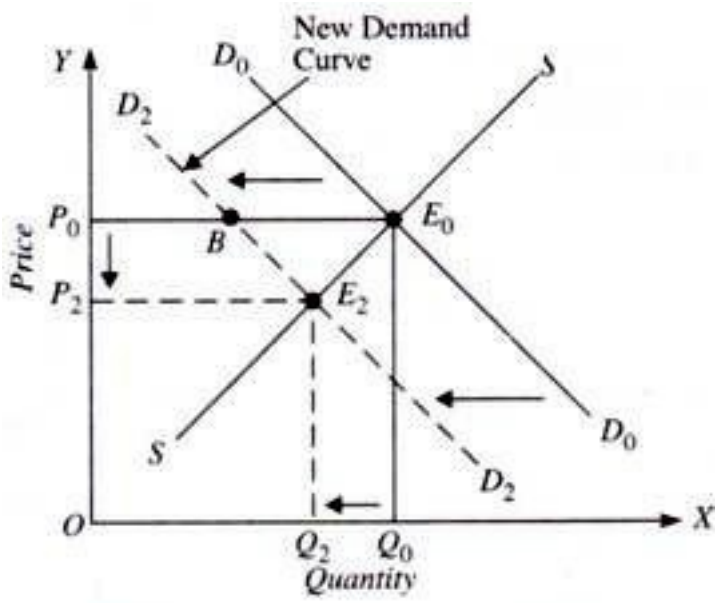


Fig. 24.3. *Impact of Decrease in Demand on Price and Quantity. (P↓, Q↓).*

As given in the examination problem that market for a good is in equilibrium. So, we assume that initial price is op_0 as shown in given figure.

In the given figure price is on vertical axis and quantity demanded and supplied are on horizontal axis. But due to decrease in demand, the demand curve shifts leftward from D_0D_0 to D_2D_2. With new demand curve D_2D_2, there is excess supply at initial

price P_0 because at price P_0 supply is Q_0 and at price P_1 supply is Q_1. so there is excess supply of BE_0 at price OP_0.

Due to this excess supply, competition among the producer will make the price fall. Due to fall in price there is downward movement along the demand curve (Expansion in demand) from B to E_2 and similarly there is downward movement along the supply curve (contraction in supply) from E_0 to E_2. So, finally, the equilibrium price falls from OP_0 to OP_2 and equilibrium quantity also falls from OQ_0 t OQ_2.

Conclusion

Due to decrease in demand,

i. Equilibrium price falls from OP_0 t OP_2.
ii. Equilibrium quantity also falls from OQ_0 to OQ_2.

OR

Perfect Competition	**Basis**	**Monopoly**
It refers to a market situation where there are very large number of buyers and sellers dealing in a homogeneous product at a price fixed by the market.	Meaning	Monopoly refers to a market situation where there is a single seller selling a product which has no close substitutes.
There are very large number of sellers and no individual seller has control over activities of other firms	Number of Sellers	There is a single seller and the monopolist has full control over the supply.
The products sold are homogeneous. So, buyers		There are no close substitutes

are willing to pay the same price for all products, which leads to uniform price in the market.	Nature of Product	of the product. So, there is no competition from new and existing products.
Any firm can freely enter or exit from this kind of market. It leads to absence of abnormal profits and abnormal losses in the long run.	Entry and Exit	There is restriction on entry and exit. So, a firm can earn abnormal profits in the long run.
In perfect competition, industry is price maker, firm is price taker because of homogeneous goods.	Price Maker/Taker	Monopolist is a price – maker as firm and industry are one and the same thing.
Buyers and sellers have perfect knowledge about market conditions.	Level of knowledge	Sellers and buyers do not have perfect knowledge.
Demand curve is perfectly elastic as price remains the same at all levels of output.	Demand curve	Demand curve slopes downwards as more output can be sold only at less price.
No selling costs are incurred as buyers and sellers have perfect knowledge about market conditions.	Selling cost	Selling costs are incurred for informative purposes due to lack of perfect knowledge.