Class 11

Economics

Set 3 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 1 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. Wealth oriented definition of Economics was given by: [1] (A) Adam Smith (B) Marshall (C) Robinson (D) None of the above Answer: (A) Adam Smith **Explanation**: According to Adam Smith, "Economics is an enquiry into the factors that determine the wealth of a country and its growth". Question 2. Statistics is a science as well as . [1] (A) Art (B) Philosophy (C) Psychology (D) Mathematics Answer: (A) Art Question 3. Airways publish data regarding progress of airways. What type of these data is for an investigator? [1] (A) Primary (B) Secondary (C) Tertiary (D) None of the above

Answer:

(B) Secondary

Explanation:

As the investigator will use the already published data, it is a type of secondary source of data.

Question 4.

An orderly arrangement of data in columns and rows are called: [1]

(A) Tabulation

(B) Classification

(C) Investigation

(D) None of the above

Answer:

(A) Tabulation

Explanation:

A tabulation is a scientific process involving the presentation of classified data in an orderly manner, so as to bring out their essential features and chief characteristics.

Question 5.

Read the following Assertion (A) and Reason (R) and choose the correct alternative: [1] Assertion (A): Diagrammatic representation of data makes the data very simple and intelligible. Reason (R): It helps in the proper analysis of the data and helps in the comparative study of the data.

Alternatives:

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

(B) Both Assertion (A) and Reason (R) are true, 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

Read the following Assertion (A) and Reason (R) and choose the correct alternative: [1] Assertion (A): In graphical representation accuracy can be checked easily.

Reason (R): No mathematical knowledge is required for graphically representing the data. Alternatives:

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

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

Explanation:

Diagrammatic representation makes it easier to analyse the data properly with a proper comparison.

OR

(D) Assertion (A) is false, but Reason (R) is true.

Explanation:

In graphical representation, estimation can be done easily. Accuracy depends on the way the data is collected.

Question 6.

Column I

Column II

A. Good Average	1. Rigidly defined.
B. Arithmetic Mean	2. Difficult to calculate
C. Weighted Mean	3. Based on extreme values
D. Combined Mean	4. Weights are included in the calculation
[1]	
(A) A - 1	
(B) B – 2	
(C) C – 3	
(D) D - 4	
Answer:	

(A) A – 1

Read the extract given below and answer questions 7 to 10 that follows:

The Office of the Economic Adviser, Department for Promotion of Industry and Internal Trade is releasing index numbers of wholesale price in India for the month of June, 2020 (Provisional) and for the month of April, 2020 (Final). In view of the limited transactions of products in the wholesale market in the month of April, 2020, due to spread of Covid-19 pandemic, it has been decided to release the Price Movement of selected Subgroups/Groups of WPI.

Provisional figures of Wholesale Price Index (WPI) are released on 14th of every month (or next working day) with a time lag of two weeks of the reference month and compiled with data received from institutional sources and selected manufacturing units across the country. After 10 weeks, the index is finalized and final figures are released and then frozen thereafter.

The annual rate of inflation, based on monthly WPI, stood at (-1.81%) (provisional) for the month of June, 2020 (over June, 2019) as compared to 2.02% during the corresponding month of the previous year. The index for the primary articles increased by (2.28%) to 139.3 (provisional) in June, 2020 from 136.2 (provisional) for the month of May, 2020. Prices of Crude Petroleum & Natural Gas (16.30%), Food Articles (1.97%) and Non Food Articles (1.71%) increased as compared to May, 2020. Prices of Minerals (-1.72%) declined as compared to May 2020.

Question 7.

What is index number? [1]

(A) An Index Number is a device which shows by its variation the increase only in the magnitude of a variable like price, production, etc.

(B) An Index Number is a device which shows by its variation the decrease only in the magnitude of a variable like price, production, etc.

(C) An Index Number is a device which shows by its variation the changes in the magnitude of a variable like price, production, etc.

(D) An Index Number is a device which changes the magnitude of a variable like price, production, etc. Answer:

(C) An Index Number is a device which shows by its variation the changes in the magnitude of a variable like price, production, etc.

Question 8.

Which index number is being prepared by the Office of Economic Adviser, Department for Promotion of Industry and Internal Trade? [1]

(A) Consumer Price Index.

(B) Wholesale Price Index. (C) Industrial Price Index. (D) All of the above. Answer: (B) Wholesale Price Index. **Ouestion 9**. The wholesale price index is created with reference to the _____ (data/price/money) received from institutional sources? [1] Answer: data Question 10. Which of the following component declined as compared to May 2020? [1] (A) Primary articles. (B) Crude Petroleum. (C) Non-food Articles. (D) Minerals. Answer: (D) Minerals. Question 11. Discuss Simple Average of Price Relative Method. [3] Answer: Simple Average of Price Relative Method: According to this method, first of all price relatives are obtained for various items and then take simple average of all price relatives. Price relative (P01) = Current year price (p1) Base year Price (p0) × 100 We can find out price index number of the current year by using the following formula: $p01 = \Sigma(P1P0 \times 100)N$ P1P0 × 100 = Price relative, N = Number of goods, P1 = Current year's price, p0 = Base year's price Question 12. Calculate the median value from the following distribution: [3]

Item	10	11	12	13	14	15	16	17	18
Frequency	1	9	26	59	72	52	29	7	1

OR

If the arithmetic mean of the data given below is 28, then find out the missing frequency: [3]

х	Frequency (f)
0-10	12
10-20	18
20-30	27
30-40	f

40-50	17
50-60	6
	$\Sigma f = 80 + f$

X	f	cf
10	1	1
11	9	10
12	26	36
13	59	95
14	72	167
15	52	219
16	29	248
17	7	255
18	1	256

$$M = \text{Size of}\left(\frac{N+1}{2}\right)^{\text{th}} \text{ item}$$
$$= \text{Size of}\left(\frac{256+1}{2}\right)^{\text{th}} \text{ item}$$

= 128.5th item = 14

OR

x	Frequency (f)	Mid Value (m)	fm
0–10	12	5	60
10–20	18	15	270
20-30	27	25	675
30-40	f	35	35(f)
40-50	17	45	765
5060	6	55	330
	$\Sigma f = 80 + f$		$\Sigma fm = 2100 + 35f$

 $\therefore \bar{x} = \sum fm \sum f$

 $\Rightarrow 28 = 2100 + 35 \text{f} 80 + \text{f}$

 $\Rightarrow 28(80 + f) = 2100 + 35f$

 $\Rightarrow 2240 + 28 / = 2100 + 35 \mathrm{f}$

$$\Rightarrow 140 = 7f$$

 $\Rightarrow f = 140/7 = 20$

Hence, the missing frequency is 20.

Question 13.

Represent the following data by a pie diagram: [4]

Items	Expenditure in ₹
Food	180
House Rent	225
Clothes	135
Education	90
Other	270

OR

Represent the following information through a time series graph: [4]

Year	Export (₹ in crores)	Import (₹ in crores)
2005	300	450
2006	320	300
2007	400	280
2008	350	375
2009	360	330
2010	250	450
2011	340	325

Answer:

% Deg<mark>ree Tabl</mark>e

Items	Expenditure in ₹	Expenditure in Percentage	% Degree
Food	180	20	72°
House Rent	225	25	90°
Clothes	135	15	54°
Education	90	10	36°
Other	270	30	108°
Total	900	100	360°

Pie-Diagram



OR

Graph showing exports and imports from Year 2005 to 2011 is given below:



Question 14.

A candidate obtains the following percentage of marks: [4]

Subjects	Marks
History	54
Geography	47
Sanskrit	75
Maths	84
Economics	58
English	78
Politics	57

Subjects	Marks(X)	Weight(W)	WX
History	54	1	54
Geography	47	1	47
Sanskrit	75	2	150
Maths	84	2	168
Economics	58	1	58
English	78	2	156
Politics	57	1	57
		$\Sigma W = 10$	$\Sigma WX = 690$

$$\bar{X}_W = \frac{\Sigma WX}{\Sigma W} = \frac{690}{10} = 69$$

Question 15.

What is Scatter Diagram? What are its demerits? [4] Answer:

It is a technique to usually examine the relationship between variables in a visual manner. It is obtained by plotting the values of the variables on X-axis and Y-axis on graph paper.

De<mark>merits:</mark>

It does not exactly determine the correlation coefficient.

It cannot be interpreted by persons who do not understand the basic terms like downward sloping and upward sloping, etc.

If the points are scattered in such a manner that points are disconnected or if there is clouding of data, it may be difficult to interpret.

Question 16.

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

x	Υ
25	55
45	60
35	30
40	35
15	40
19	42
35	36
42	48

x	Y	Rank (X)	Rank (Y)	Rank Difference D(X – Y)	D ²
25	55	6	2	4	16.00
45	60	1	1	0	0.00
35	30	4.5	8	- 3.5	12.25
40	35	3	7	- 4.0	16.00
15	40	- 8	5	3	9.00
19	42	7	4	3	9.00
35	36	4.5	6	- 1.5	2.25
42	48	2	3	- 1.0	1.00
				$\Sigma D = 0$	$\Sigma D^2 = 65.50$

$$\rho = 1 - \frac{6\left(\Sigma D^2 + \frac{1}{12}\left(m^3 - m\right)\right)}{N\left(N^2 - 1\right)} = 1 - \frac{6\left(65.5 + \frac{1}{12}\left(2^3 - 2\right)\right)}{8\left((8)^2 - 1\right)}$$

$$=1 - \frac{6\left(65.5 + \frac{1}{12}(6)\right)}{8 \times 63} = 1 - \frac{6(65.5 + 0.5)}{504}$$
$$= 1 - \frac{6 \times 66}{504} = 1 - \frac{396}{504} = \frac{108}{504} = 0.214$$

Question 17.

Construct index number of prices of 2004 for the following data by: [6] (i) Laspeyre's Method, and

(ii) Paasche's Method.

Commodity	Price (p ₀)	Quantity (q ₀)	Price (p ₁)	Quantity (q1)
A	10	30	12	50
В	8	15	10	125
С	6	20	6	30
D	4	12	6	20

OR

Find the Mean by Assumed Mean Method: [6]

X	10	20	30	40	50	60
Frequency	4	6	9	8	5	10

Answer:

Commodity	Price (p ₀)	Quantity (q ₀)	Price (p ₁)	Quantity (q ₁)	Ро Яо	P091	<i>p</i> ₁ <i>q</i> ₀	<i>p</i> ₁ <i>q</i> ₁
Α	10	30	12	50	300	500	360	600
В	8	15	10	125	120	1000	150	1250
С	6	20	6	30	120	180	120	180
D	4	12	6	20	48	80	72	120
					$\Sigma p_0 q_0 = 588$	$\sum p_0 q_1 = 1760$	$\sum p_1 q_0 = 702$	$\sum p_1 q_1 = 2150$

(i) Laspeyre's Method,

 $P01 = \sum p1q0\sum p0q0 \times 100 = 702588 \times 100 = 119.39$

(ii) Paasche's Method.

 $P01 = \sum p1q1\sum p0q1 \times 100 = 21501760 \times 100 = 122.16$

OR

Calculation of Mean:

x	Frequency	d = X - A	fdx
10	4	- 20	- 80
20	6	- 10	- 60
30	9	0	0
40	8	10	80
50	5	20	100
60	10	30	300
-	N = 42		$\sum fdx = 340$

Let the Assumed Mean, A = 30

- Mean $(\vec{x}) = A + \sum f dx N$
- = 30 + 34042
- = 30 + 8.095
- = 38.095

Section - B

Question 18.

A straight line supply curve cuts the y-axis in its negative range. What is the elasticity of supply? [1]

- (A) Highly elastic
- (B) Unitary elastic

(C) Less elastic

(D) Perfectly inelastic

OR

_ shows the functional relationship between output and cost of production.

(A) Production Function

- (B) Revenue Function
- (C) Cost Function
- (D) Demand Function

(C) Less elastic

Explanation:

A straight line supply curve that cuts the Y-axis in its negative range has a steep slope which means that the change in the quantity supplied will be less than the change in the price level. Thus, the supply of the commodity will be less elastic.

OR

(C) Cost Function

Explanation:

A Cost Function shows the functional relationship between output and cost of production. It is given as: C = f(Q)

Question 19.

Which of the following is an example of complimentary goods? [1]

- (A) Tea and Coffee
- (B) Coke and Pepsi
- (C) Rice and Wheat

(D) None of these

- Answer:
- (D) None of these

Qu<mark>estion 20.</mark>

______shows the quantities supplied by all the firms taken together in a market at various places.

[1]

- (A) Individual Supply Curve(B) Market Supply Curve(C) Industry Supply Curve
- (D) Aggregate Supply Curve

Answer:

(B) Market Supply Curve

Explanation:

Market Supply of a good is the sum total of quantities that all the producers of that good are willing to supply at a price during a period of time.

Question 21.

Read the following Assertion (A) and Reason (R) and choose the correct option: [1] Assertion (A): MC should cut MR from below.

Reason (R): After equilibrium point MC should be greater than MR or MC is rising.

Alternatives:

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

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

Explanation:

MC should cut the MR from below at the point of equilibrium as beyond that point the MR will be less than the MC and so the producer will incur losses after this point.

Question 22.

Identify the correctly matched statements from Column I to that of Column II: [1]

Column I	Column II
A. Total revenue	1. Sum of marginal revenues
B. MC > ATC	2. Stage in
C. P is negative	3. Qx = f(L,K)
D. Production Function	4. ATC must rise
(A) A - 1 (B) B - 2 (C) C - 3 (D) D - 4 Answer: (A) A - 1	
Question 23. Read Statement 1 and 2 and choose the correct alternate Statement 1: When Average Cost is constant, AC curve Statement 2: At this point, MC curve cuts AC curve, we Alternatives: (A) Both Statement 1 and Statement 2 are correct (B) Both Statement 1 and Statement 2 are false (C) Only Statement 1 is true (D) Only Statement 2 is true. Answer: (A) Both Statement 1 and Statement 2 are correct	tives: [1] e is at its minimum point. hich implies MC = AC.
Explanation: At the minimum point of the AC, the MC cuts the AC increasing at a constant rate.	curve and averag <mark>e cost is constant becaus</mark> e the TC is
Read the following passage and answer the questions	24 to 27 that follows:
Coca-Cola Company is an American multinational bev Georgia. The first company that conducted its operation	rerage company, with its headquarters in Atlanta, on in the soft drink industry was Coca-Cola. It is the

world's largest non¬alcoholic beverage company serving more than 1.8 billion consumers daily in more than 200 countries. It has a portfolio of more than 3,500 (more than 800 no or low calorie) products. However, the company is best known for its flagship product Coca-Cola which was originally intended to be a patented medicine was invented in 1886 by pharmacist John Smith Pemberton in Columbus, Georgia. Coca-Cola products can be termed as normal goods and in August, 2019 Coca-Cola has introduced the new product into the market, that is, zero sugar where the demand has increased for the product in the market.

According to the Council of Australian Food Technology Association and Institute of Food Science and Technology, the Australian non-alcoholic beverages industry has been growing steadily, with 2.3 percent increase in overall production in the year 2000 which amounts to 2.25 billion litres. However, in the recent

years, sales of customary carbonated soft drinks have dropped as more and more customers become health conscious and move away from high-calorie sugary drinks. Soft carbonated drinks and other alcohol free beverages manufacturers have also sensed the effects of intensifying competition from private-label soft drink makers. Nevertheless, sales of greater value energy and sports drinks have driven profit generation in the industry.

Question 24.	
The demand for Coca-cola is (elastic/ inelastic/ not elastic) in the present times. [1]	
Answer:	
elastic	
Question 25.	
The demand for coca-cola has [1]	
(A) increased	
(B) decreased	
(C) remained same	
(D) can't say	
Answer:	
(B) decreased	
Question 26	
(Demand / Supply / Cost / Revenue) is the want to buy a product backed by purchasing power	
[1]	
Answer:	
Demand	
Question 27.	
What has happened to the demand of zero sugar carbonated drinks? [1]	
(A) Increased	
(B) Decreased	
(C) Remained same	
(D) Can't say	
Answer:	
(A) Increased	
Question 28.	
Comment on the statement – "There is perfect knowledge of everything in a perfectly competitive market –	
both buyer and seller have perfect knowledge about market of goods and inputs used in production." [3]	
OR	
"In the long run a perfect competitive firm can never earn super-normal profits." Justify. [3]	

Answer:

In a perfectly, competitive market, the number of buyers and sellers is very large and all the buyers and sellers have perfect knowledge about the market. As a result no individual buyer or seller can influence the price in the market.

In a perfect competition, the products are homogeneous and carry the same price. By implication, this means the cost of the inputs used by the producers will be same. As a result of this, all sellers have perfect knowledge about the inputs used in the production.

OR

Under perfect competition, there is freedom of entry to firms into industry. When there are abnormal profits, new firms will enter as they will be attracted by the profits. This will increase supply in the market leading the price to fall. This process will continue till abnormal profits are wiped out.

Question 29.

Explain the effects of 'maximum price ceiling' on the market of a good. Use diagram. [3] Answer:

Ceiling means maximum limit. Price ceiling means maximum price of a commodity that the sellers can charge from the buyers. Often the government fixes this price much below the equilibrium market price of a commodity so that it becomes within the reach of the poorer sections of the society.



When government fixes price of OP1 demand for bajra extends from OL to OL2. On the other hand, supply contracts from OL to OL1. Consequently, a gap emerges between market demand and market supply. It is a situation when MD > MS. It is called a situation of excess demand. In the diagram, excess demand = ab = L1L2 (OL2 – OL1).

Excess demand for bajra would have its own implications. Significantly, people fail to buy bajra to the extent they wish to buy. Accordingly, a situation of partial hunger may continue to exist.

Commonly Made Error:

Many students get confused between the concepts of price ceiling and price floor and give incorrect answers.

Answering Tip:

The students must keep in mind that while ceiling is overhead, price ceiling denotes ; maximum price and floor is at the bottom, so price floor denotes the minimum price.

Question 30.

Price elasticity of demand of a good is -1. At a price of ₹10 per unit its demand is 500 units. At what price will its demand increase by 20 percent? [4]

Answer:

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Ed = \Delta Q \Delta P \cdot PQ

Given, Ed = (-)1, P = ₹10, Q = 500, P, = ?, Q1 = increase by 20%

Q = 500, Q1 = 20% of 500 or 100 + 500 = 600

\therefore \Delta Q = 600 - 500 = 100

Now -(1) = 100\Delta P \cdot 10500

or - (1) 500 \Delta P = 1,000

or \Delta P = -2

New price = \Delta P + P

= (-)2 + 10

= ₹8
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Question 31. Calculate Average Variable Cost at each level of output: [4]

Output (Units)	Marginal Cost (₹)
1	24
2	20
3	16
4	12
5	18
6	30

Answer:

calculation of AVC

Output (Units)	MC	TVC	AVC
1	24	24	24
2	20	44	22
3	16	60	20
4	12	72	18
5	18	90	18
6	30	120	20

Note : By adding successive units of MC, we get TVC

Question 32.

Distinguish between positive economics and normative economics. Give an example of each. [4] OR

State any four assumptions on which a Production Possibility Curve is based. [4] Answer:

Positive economics is the branch of economics that concerns the description and explanation of economic phenomena. It focuses on facts and cause and effect behavioural relationships and includes the development and testing of economic theories. Positive economics is objective and facts based. Whereas, normative economics is a part of economics that expresses value or normative judgments about economic fairness or what the outcome of the economy or goals of public policy ought to be. Normative economics is subjective and value based. For example, the statement, "government-provided healthcare increases public expenditures" is a positive economic statement and the statement, "government should provide basic healthcare to all citizens" is a normative economic statement.

OR

PPC is based on the following assumptions :

(i) Only two goods can be produced with the help of given resources.

(ii) The resources are fully and efficiently utilised and there is no change in technology.

(iii) The amount of resources in an economy is fixed but these resources can be transferred from one use to another.

(iv) All the points on the prodcuction possibility curve shows the most efficient utilisation of the resources and technology available.

Question 33.

Explain the effect of the following on market supply of a good:

(i) Increase in input prices

(ii) Reduction in per unit tax. [6]

OR

"If the equilibrium conditions are not met, the producer will not be in equilibrium." Elucidate the statement. [6]

Answer:

(i) Increase in input prices: Change in price of raw material and remuneration of factors, (rent, wages, interest and profit) influences the cost of production of a commodity and thereby its supply. An increase in price of inputs will increase the cost of production leading to a reduction in profit. This will make the producer reduce the supply of the commodity, shifting the supply curve to the left.

(ii) Reduction in per unit tax: Government levies taxes on production of goods, etc. Such taxes influence supply because it adds to the cost of production. Reduction in per unit tax levied by the government will decrease the cost of production and increase supply by the firms due to higher profit margins. In this case the supply curve will shift towards the right.

OR

If such condition is not fulfilled, the optimum point of production hasn't been reached, e.g., if MC increases while the MR is stable, this means that with every increase in production, the cost of production is increasing. It means the firm is undertaking higher cost of production which it won't be able to cover by the price it will get after selling the product. So obviously this isn't the equilibrium point. On the other hand, when the MC is less than MR, it means that with every increase in production, the cost will fall. A businessman will tend to increase the production till the MC becomes equal to MR. When MC equals MR, there is no tendency for the production to either increase or decrease. Hence, it is the equilibrium point.

Qu<mark>es</mark>tion 34.

Explain why is an Indifference Curve:

(i) Downward sloping from left to right and

(ii) Convex. [6]

Answer:

(i) Indifference Curve Slopes Downwards: This property implies that to increase the consumption of goods X, the consumer has to reduce the consumption of goods Y, so as to remain at the same level of satisfaction as shown in the given figure :



ON AT MAXIM

To increase the quantity of goods X from OX to OX1, the consumer has to reduce quantity of goods Y from OY to OY1.

(ii) Convex: This property is based on the principle of diminishing marginal rate of substitution. It implies that as the consumer substitutes X for Y, the Marginal Rate of Substitution between them goes on diminishing as shown in the given figure:

