Economics and Statistics 152

Roll No.....

Time allowed : 3 hours *Maximum marks : 100*

Total number of questions : 8 *Total number of printed pages : 8*

PART — A

(Answer Question No.1 which is compulsory and any two of the rest from this part.)

1. (a) State, with reasons in brief, whether the following statements are true or false :

(i) The term 'production' in economics includes only those activities which generate income.

(ii) The law of variable proportions is a short-term phenomenon.

(iii) In a capitalist economy, all means of production are exclusively owned by the government.

(iv) An item cannot have liquidity unless it can be sold or exchanged in the market.

(v) 'Free entry and exit' is one of the important features of competitive markets.

(2 marks each)

(b) Write the most appropriate answer from the given options in respect of the following :

(i) An example of 'positive economics' analysis would be —

(a) An analysis of the relation between the price of food and the quantity purchased

(b) Determining how much income each person should be guaranteed

(c) Determining fair price for food

(d) Deciding how to distribute the output of the economy.

(ii) When demand and supply both increase in the same proportion —

(a) Equilibrium quantity remains unchanged

(b) Price increases

(c) Equilibrium price remains same

(d) Quantity decreases.

(iii) The study of the theory of a firm is an example of —

(a) Macro economics

(b) Micro economics

(c) Non-economic activity

(d) Business activity.

(iv) In ordinal utility theory, utility is —

(a) Not expressed in absolute units

(b) Expressed in absolute units

(c) Expressed as elasticity of price

(d) Expressed as elasticity of supply.

(v) In long run, equilibrium of a firm in perfect competition would be —

(a) AC>AR>MC>MR

(b) AC<AR<MC<MR

(c) AC=AR=MC=MR

(d) AC=AR and MC>MR.

(vi) Sector which includes agriculture and activities like forestry, poultry farming, animal husbandry, *etc*., is known as —

(a) Primary sector

(b) Secondary sector

(c) Tertiary sector

(d) Organised sector.

(vii) Balance of payments is a —

(a) Systematic records of all trade transactions between two countries

(b) Systematic record of all monetary transactions between residents of one country and the residents of the rest of the world in a year

(c) Systematic record of all debts to and from other countries

(d) None of the above.

(viii) The transaction version of the quantity theory of money was put forward by —

(a) Pigou

(b) Marshall

(c) Keynes

(d) Fisher.

(ix) If M_1=Currency; M_2=Banks' money; P=Average price; T=Aggregate volume of all items sold and V_1 and V_2 are their velocities respectively, then according to quantity theory of money (Fisher's equation) —

(a) $M_1V_1 = M_2V_2 = PT$

(b) $M_1V_1 + M_2V_2 = PT$

(c) $M_1V_1 < M_2V_2 < PT$

(d) $M_1V_1 > M_2V_2 > PT$.

(x) World Trade Organisation (WTO) is a system of rules dedicated to open, fair and —

(a) Promote competition for most-favoured nation (MFN)

(b) Undistorted competition

(c) Check trade barriers by General Council of WTO

(d) Periodical review of trade policy by General Council of WTO.

(1 mark each)

2. (a) Distinguish between ***any three*** of the following :

(i) 'Average variable cost' and 'marginal cost'.

(ii) 'Arc elasticity' and 'point elasticity'.

(iii) 'Demand deposit' and 'time deposit'.

(iv) 'Factor cost' and 'market price'.

(3 marks each)

(b) Re-write the following sentences after filling-in the blank spaces with appropriate word(s)/figure(s) :

(i) In _____ market, product differentiation is the key feature.

(ii) _____ can be defined as the addition to total revenue when the quantity sold is increased by one unit.

(iii) According to the Micro, Small and Medium Enterprises Development Act, 2006, enterprises have been divided broadly into two categories — one as enterprises engaged in the manufacture or production of goods and the other as the enterprises engaged in providing or rendering of _____.

(iv) _____ imply the sale or purchase of approved securities by the Central Bank in the open market.

(v) An item like milk has _____ price elasticity of demand.

(vi) The nature of unemployment in India sharply differs from one that prevails in developed countries, as most of it is in the form of _____ unemployment.

(1 mark each)

3. Attempt ***any three*** of the following :

(i) Discuss the relationship between demand and leading determinants of demand.

(ii) Explain 'monopoly' and its salient features.

(iii) State the objectives of monetary policy and its role in India.

(iv) What do you understand by the term 'globalisation' ? Elaborate its gains both in general and in particular to India.

(5 marks each)

4. Attempt ***any three*** of the following :

(i) Why does the supply curve slope upward from left to right ?

(ii) Why do consumers suffer in the monopolistic competition ?

(iii) Discuss the salient features of India's tax system.

(iv) Explain the measures taken to tackle the supply side management in Indian economy since 1991.

(5 marks each)

PART — B

(Answer Question No.5 which is compulsory and any two of the rest from this part.)

5. (a) State, with reasons in brief, whether the following statements are true or false :

(i) Statistics have no limitations.

(ii) Mode is affected by extreme observations.

(iii) Value of standard deviation is only positive.

(iv) Secular trend variations are of regular nature and repeat after a fixed interval of time.

(v) Same weight is given to all commodities in a weighted index number.

(2 marks each)

(b) Write the most appropriate answer from the given options in respect of the following :

(i) "Statistics may be defined as the science of collection, presentation, analysis and interpretation of numerical data." This definition of statistics was given by —
(a) Lovin
(b) Croxton and Cowden
(c) A. L. Bowley
(d) King.

(ii) Frequency of a class per unit width that indicates concentration of frequency in the class is known as —
(a) Frequency distribution
(b) Frequency density
(c) Class width
(d) Class interval.

(iii) Index numbers that measure the changes in total money worth during some period compared with other period are known as —
(a) Quantity index numbers
(b) Value index numbers
(c) Wholesale price index numbers
(d) Retail price index numbers.

(iv) In case of a symmetrical distribution —
(a) Mean = median = mode
(b) Mode = 3 median – 2 mean
(c) Mode/median = mean
(d) Mode – mean = median.

(v) Harmonic mean of 400, 100, 300, 200 is —
(a) 250
(b) $\sqrt{1000}$
(c) 192
(d) $(250)^2$.

(vi) The organisations such as Reserve Bank of India (RBI) and National Sample Survey Office (NSSO) collect and publish —
(a) Derivative data
(b) Mixed data
(c) Secondary data
(d) Primary data.

(vii) The correlation co-efficient lies between —
(a) −1 and +1
(b) 0 and +1
(c) 0 and −1
(d) +1 and +2.

(viii) Seasonal variations are absent if the time interval between successive observations is —
(a) Less than or equal to one year
(b) Equal to one year
(c) More than one year
(d) None of the above.

(ix) In any pie-chart, the sum of central angle is —
(a) 90 degree
(b) 180 degree
(c) 270 degree
(d) 360 degree.

(x) Which one of the following is a positional average —
(a) Arithmetic mean
(b) Geometric mean
(c) Median
(d) Harmonic mean.

(1 mark each)

6. (a) Distinguish between ***any three*** of the following :
(i) 'Harmonic mean' and 'geometric mean'.
(ii) 'Primary data' and 'secondary data'.
(iii) 'Census investigation' and 'sample investigation'.
(iv) 'Dorbish and Bowley's index number' and 'Fisher's ideal index number'.

(3 marks each)

(b) Re-write the following sentences after filling-in the blank spaces with appropriate word(s)/figure(s) :

(i) The word 'statistics' is used in two senses, *i.e.*, statistical data and _____.

(ii) In _____ classification, data are classified on the basis of certain characteristics or presence and absence of attributes like intelligence, honesty, occupation, *etc.*

(iii) _____of a distribution divides a series of observations into 100 equal parts.

(iv) In an approximate normal distribution $\bar{x} \pm 2\sigma$ covers about _____ of the distribution.

(v) The study of association between two characteristics can be divided into two broad categories, *i.e.*, correlation and _____.

(vi) _____ of data implies the removal of the effect of seasonal variations.

(1 mark each)

7. Attempt ***any three*** of the following :

(i) "The two ogives intersect at median." Define 'ogive' and elaborate the statement with the help of an example.

(ii) Explain Spearman's rank correlation method.

(iii) "Forecasting can be done on the basis of collection of data or obtaining opinion of the experts." Explain.

(iv) From the following, find seasonal indices (upto two decimal places) by using moving average method :

Year	*Quarter 1*	*Quarter 2*	*Quarter 3*	*Quarter 4*
2005	30	20	25	27
2006	23	25	30	20
2007	24	23	29	21
2008	21	45	26	19
2009	25	35	40	25

(5 marks each)

8. Attempt ***any three*** of the following :

(i) Represent the following data by histogram :

Class interval	0-50	50-100	100-150	150-200	200-250	250-300
Frequency	12	5	22	3	15	7

(ii) Find the co-efficient of correlation between the marks obtained by 12 students of a post-graduate course in two papers of Economics and Statistics of 100 marks each from the following by using the method of calculating co-efficient of correlation by assuming mean. Also comment upon the co-efficient of correlation so arrived :

Marks in Economics	75	80	75	83	78	84	85	60	79	74	81	77
Marks in Statistics	79	85	70	80	80	90	88	63	87	73	82	76

(iii) The mean of a certain number of observations is 50. If three numbers 70, 60 and 65 are added to this data, the mean rises to 55. Find the number of items in the original data ?

(iv) The following is the distribution of aggregate percentage of marks of students in a class :

Aggregate marks (%)	30-40	40-50	50-60	60-70	70-80	80-90	90-100
Number of students	1	3	10	20	15	6	5

Calculate the percentage of students having the range $\bar{x} \pm \sigma$.

(5 marks each)

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