Economics and Statistics

Roll No.

Time allowed : 3 hours

Total number of questions : 8

152

Maximum marks : 100

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) Negative income elasticity for a product would indicate that the product is an inferior product.
- (ii) Each firm in the monopolistic competition has a downward sloping demand curve.
- (iii) Purchasing power of money increases with increase in prices.
- (iv) Fiscal deficit is same as budgetary deficit.
- (v) WTO helps member nations in the settlement of their political disputes.

(2 marks each)

- (b) Write the most appropriate answer from the given options in respect of the following :
 - - (a) Primary sector
 - (b) Secondary sector
 - (c) Tertiary sector
 - (d) None of the above.
 - (ii) When marginal product is zero, the total product is ---
 - (a) Maximum
 - (b) Increasing
 - (c) Decreasing
 - (d) Constant.

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- (iii) Contraction in demand of a commodity is the result of --
 - (a) Decrease in the number of its buyers
 - (b) Increase in its price
 - (c) Increase in prices of related goods
 - (d) Decrease in income of buyers.

(iv) In the national context, which of the following indicates the macro approach —

- (a) Sale of Maruti cars
- (b) Export of cashew nuts to USA
- (c) Income from railways
- (d) Inflation in India.
- (v) Price discrimination is possible under ----
 - (a) Perfect competition
 - (b) Monopoly
 - (c) Oligopoly
 - (d) None of the above.

(1 mark each)

- (c) How would you define 'money' ? What are the alternative approaches while defining money ? (5 marks)
- 2. (a) Distinguish between *any three* of the following :
 - (i) 'Positive economics' and 'normative economics'.
 - (ii) 'Supply' and 'stock'.
 - (iii) 'Internal diseconomies' and 'external diseconomies'.
 - (iv) 'Private income' and 'personal income'.

(3 marks each)

- (b) Re-write the following sentences after filling-in the blank spaces with appropriate word(s)/figure(s) :
 - The book titled 'An enquiry into the nature and causes of the Wealth of Nations' was written by ______.
 - (ii) Stabilisation of price-level is the objective of _____ policy.
 - (iii) Commodities which are perishable in nature have ______ supply.
 - (iv) To a consumer, the utility of a good is the ______ which he expects from its consumption.
 - (v) Net National Product = Gross National Product minus _____.
 - (vi) Physical relationship between inputs and output is known as _____.

(1 mark each)

- 3. Comment on *any three* of the following :
 - A pure capitalist economy is characterised by absence of State intervention in economic activities.
 - (ii) Normally, a demand curve has a negative slope.
 - (iii) For price discrimination to be successful, certain conditions have to be fulfilled.
 - (iv) Economic welfare is closely related to composition and distribution of national income.

(5 marks each)

- 4. Attempt any three of the following :
 - (i) What do you mean by 'disequilibrium' in balance of payments ? What steps could be taken to overcome it ?
 - (ii) Describe briefly the objectives and tools of fiscal policy.
 - (iii) Discuss in brief the functions of the Reserve Bank of India.
 - (iv) What is World Trade Organisation (WTO)? State the objectives and principles of WTO trading system.

(5 marks each)

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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 can prove anything.
- (ii) It is essential to set the series into ascending or descending order to calculate mean.
- (iii) A distribution with greater co-efficient of variation is said to be more uniform.
- (iv) Karl Pearson's co-efficient of correlation is not suitable for use when dealing with qualitative characteristics.
- (v) Fisher's index number is an 'ideal index number'.

(2 marks each)

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

- (i) "Statistics is a science of estimates and probabilities." This definition is given by
 - (a) Webster
 - (b) Boddington
 - (c) Selligman
 - (d) Cowden.
- (ii) Which of the following is not secondary data
 - (a) Data published in research journals
 - (b) Data published by WTO
 - (c) Data published in newspaper
 - (d) Data obtained by a firm in a market survey.
- (iii) When both lower and upper limits are considered, such classes are called
 - (a) Exclusive
 - (b) Inclusive
 - (c) Cumulative
 - (d) Mutually dependent.

- (a) Mode
- (b) Median
- (c) Arithmetic mean
- (d) Geometric mean.

(v) Which of the following can also be determined by graphic method —

- (a) Arithmetic mean
- (b) Harmonic mean
- (c) Geometric mean
- (d) Median.

(vi) The measure of variation that is least affected by extreme observations is --

- (a) Range
- (b) Mean deviation
- (c) Standard deviation
- (d) Quartile deviation.

(vii) A distribution is called symmetrical when ---

- (a) $\overline{\mathbf{x}} > \mathbf{Z}$
- (b) $Z > \overline{x}$
- (c) $M > \overline{x}$
- (d) $\vec{\mathbf{x}} = \mathbf{M} = \mathbf{Z}.$

(viii) Correlation is said to be linear when ---

- (a) Increase in one variable results in decrease in other variable
- (b) Decrease in one variable results in increase in other variable
- (c) Change in one variable results in change in other variable
- (d) Change in one variable tends to bear constant ratio of change in other variable.
- (ix) Which one of the following indices uses only current year quantities as weights -
 - (a) Bowley's index number
 - (b) Laspeyre's index number
 - (c) Paasche's index number
 - (d) Fisher's index number.

- (x) Which one of the following is not used in the measurement of trend
 - (a) Semi-average method
 - (b) Moving average method
 - (c) Least squares method
 - (d) Estimation method.

(1 mark each)

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

- (i) 'Deliberate sampling' and 'random sampling'.
- (ii) 'Classification' and 'tabulation'.
- (iii) 'Direct investigation' and 'indirect investigation'.
- (iv) 'Historigram' and 'histogram'.

(3 marks each)

- (b) Re-write the following sentences after filling-in the blank spaces with appropriate word(s)/figure(s):
 - (i) "Statistics may be defined as the science of collection, presentation, analysis and interpretation of numerical data." This definition has been given by ______.
 - (ii) The _____ provides the basis of theory of probability in statistics.
 - (iii) Business forecasting is done with the help of ______ statistics.
 - (iv) ______ are the values of a variable that divide a distribution into ten equal parts.
 - (v) Arithmetic mean of 5, 30, 90, 800 and 6,500 is _____.
 - (vi) The mean of 10 observations is 35. If each observation is multiplied by 5, the changed mean will be ______.

(1 mark each)

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- 7. Attempt any three of the following :
 - (a) From the following data, draw the pie chart :

Distribution of Rupee Spent on Khadi

Head of Expense	Paise
Farmer	19
Carder and spinner	35
Weaver	28
Washerman, dyer and printer	8
Administrative agency	10
Total :	100

(5 marks)

(b) Calculate Laspeyre's, Paasche's and Fisher's index numbers for the following data :

Item		<u>Period</u> Price	<u>Current Period</u> Qty. Price
А	12	10	15 12
В	15	7	20 5
С	24	5	20 9
D	5	16	5 14

(5 marks)

(c) Find out mean deviation and its coefficient from median of the following data :

Size (x)	10	11	12	13	14
Frequency (y)	3	12	18	12	3

(5 marks)

(d) From the following data related to two factories, find ---

(i) Which factory pays larger amount as total wages per hour; and

(ii) Which factory is more variable in wages :

Factory	No. of Workers	Average Wage	Variance
А	200	₹15 per hour	16
B	250	₹12 per hour	9

(5 marks)

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- 8. Attempt any three of the following :
 - (a) Write short notes on (i) Spurious correlation; and (ii) Scatter diagram.

(5 marks)

(b) Calculate Karl Pearson's coefficient of correlation from the following data and also interpret the result :

X	Y
10	20
12	16
14	12
16	8
18	4

(5 marks)

(c) Explain briefly the problems in the construction of index numbers.

(5 marks)

(d) Calculate trend values from the following data using least squares method and estimate the number of workers for the year 2011 :

Year	2006	2007	2008	2009	2010	
No. of Workers (in thousand)	10	12	13	14	16	
						(5 marks)

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