Economics and Statistics

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) National income is studied in micro economics.

    (ii) A perfect competitive firm has downward sloping demand curve.

    (iii) Balance of payments and balance of trade are synonymous.

    (iv) No individual bank can create credit without the help of other banks.

    (v) Since April, 1977, RBI has been publishing four alternative measures of money supply.

(2 marks each)

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

    (i) "Economics is on the one side a study of wealth, and on the other, and more important side, a part of the study of mankind." This statement is given by —

        (a) Adam Smith

        (b) Marshall

        (c) Robbins

        (d) Ricardo.

    (ii) According to law of equi-marginal utility, a consumer will be in equilibrium if —

        (a) $\dfrac{MU_x}{P_x} > \dfrac{MU_y}{P_y}$

        (b) $\dfrac{MU_x}{P_x} < \dfrac{MU_y}{P_y}$

        (c) $\dfrac{MU_x}{P_x} = \dfrac{MU_y}{P_y}$

        (d) $\dfrac{MU_x}{P_x} + \dfrac{MU_y}{P_y} = 0$

(iii) If a shopkeeper increases the price of a commodity and as a result of it his total revenue also increases, it means the price elasticity of demand of the commodity is —

    (a) Less than one

    (b) Greater than one

    (c) Equal to one

    (d) None of the above.

(iv) Marginal cost and average cost are equal to each other at —

    (a) Minimum point of marginal cost curve

    (b) Minimum point of average cost curve

    (c) Diminishing part of marginal cost curve

    (d) Diminishing part of average cost curve.

(v) Discriminating monopoly is possible, if two markets have —

    (a) Different elasticities of demand

    (b) Equal elasticities of demand

    (c) Zero elasticities of demand

    (d) Infinite elasticities of demand.

(vi) In which sector, the maximum percentage of working population of India is employed —

    (a) Tertiary sector

    (b) Secondary sector

    (c) Primary sector

    (d) None of the above.

(vii) Which of the following policy is controlled by the Central Bank of a country —

    (a) Fiscal policy

    (b) Monetary policy

    (c) Wage policy

    (d) Export policy.

(viii) Which one of the following items generally accounts for the highest share in total imports of India —

    (a) Capital goods

    (b) Petroleum and oil

    (c) Fertilizers

    (d) Iron and steel.

(ix) Commercial banks create credit —

    (a) On the basis of their capital

    (b) On the basis of their cash deposits

    (c) On the basis of their total assets

    (d) On the basis of their net profits.

(x) When was the World Trade Organisation established —

    (a) 1956

    (b) 1991

    (c) 1995

    (d) 2005.

(1 mark each)

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

    (i) 'Inductive reasoning' and 'deductive reasoning'.

    (ii) 'Short-run equilibrium of a firm' and 'long-run equilibrium of a firm'.

    (iii) 'Private income' and 'personal income'.

    (iv) 'Cost of production in monopolistic competition' and 'selling costs in monopolistic competition'.

(3 marks each)

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

    (i) An economy always has _____ of resources as compared to the wants to be satisfied.

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(ii) In case of inferior goods, the income effect is _____ .

(iii) _____ is one of the factors of production which is provided free of cost by nature.

(iv) Per capita _____ of manufactured and consumer goods is considered as most widely accepted measure of standard of living and quality of life.

(v) _____ refers to the practice of sale and purchase of commercial papers and government securities by the RBI in the market.

(vi) Fiscal policy is an important and effective instrument to influence business environment of a _____ in a country.

(1 mark each)

3. Attempt *any three* of the following :

(i) What do you mean by 'distributive justice' ? What are the difficulties in achieving this objective ?

(ii) What does the law of variable proportions state ? Explain the assumption(s) on which the law of variable proportions is based ?

(iii) "An increase in national income leads to a corresponding increase in economic welfare of the society." Comment.

(iv) What are the new challenges faced in the conduct of monetary policy in India ?

(5 marks each)

4. Attempt *any three* of the following :

(i) How is the concept of elasticity of demand useful to the government as well as the business sector ?

(ii) How would a monopoly firm determine the price and output, if it decides to charge different prices in different markets ?

(iii) How does foreign trade contribute to economic growth of a country ? Explain.

(iv) How 'globalisation' has helped Indian economy ?

(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) The larger the size of the sample, the less accurate the results are likely to be.

(ii) Secondary data need utmost care in their use.

(iii) The sum of deviations of values is maximum when these deviations are taken from their arithmetic mean.

(iv) The value of correlation coefficient cannot be negative.

(v) Index numbers are often known as the barometer of economic activity.

(2 marks each)

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

(i) Statistics is concerned with —
   (a) Only numerical statements of facts
   (b) Only statistical methods
   (c) Both (a) and (b) above
   (d) None of the above.

(ii) The entire structure of statistical analysis for any enquiry is based on systematic —
   (a) Presentation of data
   (b) Collection of data
   (c) Tabulation of data
   (d) Analysis of data.

(iii) In chronological classification, data are classified on the basis of —
   (a) Attributes
   (b) Place
   (c) Time
   (d) Class intervals.

(iv) If the arithmetic mean of 7 observations is 100 and that of 3 observations is 50, the combined arithmetic mean would be —
   (a) 75
   (b) 85
   (c) 100
   (d) 65.

(v) In a frequency distribution, if variance is 25 and arithmetic mean is 10, then the coefficient of variation would be —

(a) 250%
(b) 50%
(c) 2.5%
(d) None of the above.

(vi) Spearman's rank correlation coefficient 'R' is equal to —

(a) $\dfrac{6\,\Sigma\,d_i^2}{n(n^2-1)}$

(b) $1+\dfrac{6\,\Sigma\,d_i^2}{n^3-n}$

(c) $1-\dfrac{\Sigma\,d_i^2}{n^3-n}$

(d) $1-\dfrac{6\,\Sigma\,d_i^2}{n(n^2-1)}$

(vii) Seasonal variations are caused by —

(a) Growth of population
(b) Business cycles
(c) Technological improvements
(d) Climate, custom and traditions.

(viii) Time reversal test is satisfied when —

(a) $P_{01} \times P_{10} = 1$
(b) $P_{01} \times Q_{01} = 1$
(c) $P_{01} \times Q_{10} = 1$
(d) $P_{10} \times Q_{01} = 1$.

(ix) Which of the following is a cause of distrust of statistics —

(a) Ignorance of the common man
(b) Lack of special skill and ability in the statistics
(c) No stamp of accuracy in the data
(d) All of the above.

(x) Multiple bar diagrams are —

(a) One dimensional diagrams
(b) Two dimensional diagrams
(c) Three dimensional diagrams
(d) None of the above.

(1 mark each)

Contd ....

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

   (i) 'Histogram' and 'histograph'.

   (ii) 'Mathematical averages' and 'positional averages'.

   (iii) 'Lorenz curve' and 'Gini coefficient'.

   (iv) 'Simple correlation' and 'partial correlation'.

(3 marks each)

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

   (i) Statistics relates to _____ of facts.

   (ii) Median is a _____ average.

   (iii) Square of the standard deviation is known as the _____ of the distribution.

   (iv) _____ is the tendency of data to increase or decrease over a long period of time.

   (v) In a class, the end values *i.e.*, highest and lowest values are known as _____ of that class.

   (vi) _____ is the step preceding tabulation.

(1 mark each)

7. Attempt *any three* of the following :

   (i) What is tabulation ? Discuss the essential components of a table.

   (ii) Discuss various functions performed by statistics.

   (iii) What is 'forecasting' ? Discuss different survey methods available for forecasting.

   (iv) Compare the dispersion in the following two series through quartile deviation measures :

Height (in inches)	58	56	62	61	63	64	65	59	62	65	55
Weight (in pounds)	117	112	127	123	125	130	106	119	121	132	108

(5 marks each)

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8. Attempt *any three* of the following :

(i) Represent by using the multiple bar diagrams the changes in the students enrolment in four faculties of a college during the last three years :

Faculty	No. of Students		
	2009-10	*2010-11*	*2011-12*
Arts	600	550	500
Science	400	500	600
Commerce	200	250	250
Law	150	200	250

(5 marks)

(ii) An investor buys `1,500 worth of shares in a company each month. During the first four months he bought the shares at a price of `10, `15, `20 and `30 per share respectively. What is the average price paid for the shares bought during these four months ?

(5 marks)

(iii) From the following data, calculate the rank correlation coefficient :

X	115	109	112	87	98	98	120	100	96	118
Y	75	73	85	70	76	65	82	73	68	80

(5 marks)

(iv) From the following data, obtain the Fisher's ideal index number :

Year	Rice		Wheat		Barley	
	Price	*Qty.*	*Price*	*Qty.*	*Price*	*Qty.*
2001	4	50	3	10	2	5
2010	10	40	8	8	4	4

(5 marks)

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