LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

B.A. DEGREE EXAMINATION – **ECONOMICS**

SECOND SEMESTER – **APRIL 2015**

ST 2103 - STATISTICAL METHODS FOR ECONOMICS

Date : 20/04/2015   Dept. No.   Max. : 100 Marks
Time : 01:00-04:00

SECTION- A

Answer **ALL** the following: (2 X 10 = 20)
1. Define Statistics.
2. State any two limitations of statistics.
3. What are the measures of central tendency?
4. Define regression.
5. Write the uses of scatter diagram.
6. Give the formula for Karl-Pearson's coefficient of correlation.
7. State any two probability sampling techniques.
8. Define classification of data.
9. Give the formula for Fisher's ideal index.
10. Define cost of living index.

SECTION- B

Answer any **FIVE** of the following: (5 X 8 = 40)
11. Explain the uses of statistics in various fields.
12. Describe the rules for construction of diagrams.
13. Draw a suitable diagram for the following data:

Mark Scored	10-20	20-30	30-40	40-50	50-60	60-70	70-80
No. of students	5	8	10	15	12	6	4

14. Calculate mean and median for the following data:

Mark Scored	1-10	11-20	21-30	31-40	41-50	51-60	61-70
No. of students	2	4	5	10	8	4	2

15. Calculate the coefficient of variation for the following data on income of 60 families:

Income (in '000Rs)	10-15	15-20	20-25	25-30	30-35	35-40	40-45
No. of families	5	8	12	15	10	6	4

16. Find the Spearman's coefficient of correlation between the scores given by two evaluators for 10students in a competitive exam.

Judge A	65	66	67	67	69	71	72	74	75	80
Judge B	67	68	69	68	70	70	69	70	70	75

17. For the following data, construct consumer's price index numbers by:
    (i) Aggregative expenditure method and (ii) Family budget method

Commodity	Quantity	2012 Price	2014 Price
A	20	8	12
B	15	4	14
C	12	10	15
D	10	15	18
E	5	18	20

18.   Calculate the trend value using the method of least square principle for the following data.

Years	2005	2006	2007	2008	2009	2010	2011	2012
Yield of wheat (in tones)	28	30	32	32	38	40	42	45

SECTION – C

Answer any **TWO** of the following: **(2 X 20 = 40)**

19.   (i) Explain the various methods of data collection with its merits and demerits.
      (ii) Find the mode for the following data and confirm your answer using
          grouping table.

Class	0-15	15-25	25-35	35-45	45-55	55-65	65-75	75-85
Frequency	10	15	30	55	85	60	45	25

(10+10)

20.   (i) Calculate the mean and standard deviation for the following data:

X	15-25	25-35	35-45	45-55	55-65	65-75	75-85
f	2	4	8	6	3	2	1

   (ii) Calculate the Bowley's coefficient of skewness for the following data:

X	10-20	20-30	30-40	40-50	50-60	60-70	70-80
f	5	10	15	25	10	10	5

(10+10)

21. (i) Calculate the Karl-Pearson coefficient of correlation for the following data on
      demand and supply :

Demand	20	22	24	25	27	30	32	33	36	38
Supply	26	28	30	33	35	38	40	42	46	45

   (ii) Calculate the regression equation for the following data and find the value of Y
      when X = 75.

X	45	46	45	48	50	51	52	55
Y	25	25	28	30	32	35	36	40

(10+10)

22. (i) Explain the four components of time series analysis.   **(8 + 12)**
   (ii) For the following data, calculate price index numbers by:
      (a)   Laspeyre's method, (b) Paasche's method and (c) Fisher's ideal method
      (d)   Marshall-Edgeworth method and   (e) Dorbish-Bowley method.

Commodity	Base year		Current year	
	Price	Quantity	Price	Quantity
A	20	50	25	60
B	25	100	30	120
C	15	60	12	60
D	10	30	15	10
E	15	40	15	10

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