LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

B.A. DEGREE EXAMINATION – ECONOMICS

THIRD SEMESTER – NOVEMBER 2014

EC 3502/EC 3500 - QUANTITATIVE TOOLS FOR ECONOMICS

Date : 31/10/2014   Dept. No.   Max. : 100 Marks
Time : 09:00-12:00

PART- A

Answer any FIVE of the following in about 75 words each   (5 x 4 =20)

1. Define Data. State the types of Data.

2. State the types of classification.

3. Draw a Pie diagram for the following data:

Agriculture and Rural development	12.9%
Irrigation	12.5%
Energy	27.2%
Industry and Minerals	15.4%
Transport, communications	15.9%
Social services and others	16.1%

4. Calculate the Median for the following distribution:

Marks	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50
No. of students	7	15	24	31	42	30	26	15	10

5. State the formula for first 5 moments from Arithmetic mean for simple series.

6. Distinguish between weighted arithmetic mean and simple arithmetic mean.

Year	1997	1998	1999	2000	2001	2002	2003
Sales	102	105	114	110	108	116	112

7. Explain the uses of an Index number.

PART- B

Answer any FOUR of the following in about 300 words each (4 x 10 =40)

8. Explain the parts of a Table.

9. Discuss the criteria of a good Questionnaire.

10. Calculate mean median and mode of the data given below:

Mark	0-10	10-20	20-30	30-40	40-50	50-60
No. of students	8	15	22	20	10	5

11. Find the Standard deviation from the following data:

Age	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80
No. of Persons	15	15	23	22	25	10	5	10

12. Calculate coefficient of skewness based on Quartiles and median from the following data :

Variable	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80
Frequency	12	16	26	38	22	15	7	4

13. Ten competitors in a beauty contest are ranked by three judges in the following order:

I Judge	1	6	5	10	3	2	4	9	7	8
II Judge	3	5	8	4	7	10	2	1	6	9
III Judge	6	4	9	8	1	2	3	10	5	7

Use the rank correlation coefficient to determine which pair of judges has the nearest approach to common tastes in beauty.

14. Estimate the trend value using the data given by taking a four yearly moving average:

Year	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Production	464	515	518	467	502	540	557	571	586	612

PART- C

Answer any TWO of the following in about 900 words each (2 x 20 =40)

15. Define Statistics. Explain its functions, uses and limitations.

16. The following data relate to the scores obtained by 9 sales men of a company in an intelligence test and their weekly sales in thousand rupees:

Test scores	50	60	50	60	80	50	80	40	70
Weekly sales	30	60	40	50	60	30	70	50	60

(a) Obtain the regression equation of sales on intelligence test scores of the salesmen
(b) If the intelligence test score of salesmen in 65, what would be his expected weekly sales.

17. Fit a straight line trend by the method of least squares to the following data.Assume what would be the predicted earning for the year 2005:

Year	1996	1997	1998	1999	2000	2001	2002	2003
Earnings	38	40	65	72	69	60	87	95

18. Compute Laspeyre's, Paasche's Fishers and Marshall –Edgeworths Index numbers from the following data:

Item	Base Year		Current Year	
	Price	Quantity	Price	Quantity
A	5	25	6	30
B	3	8	4	10
C	2	10	3	8
D	10	4	3	5

$$$$$$$