LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

B.Sc.DEGREE EXAMINATION –**STATISTICS**

FIFTH SEMESTER – **APRIL 2018**

ST 5508/ ST 5506– APPLIED STATISTICS

Date: 04-05-2018   Dept. No.   Max. : 100 Marks
Time: 09:00-12:00

Part – A

Answer ALL the Questions   (**10 x 2 = 20 marks**)

1) Define Index Number.

2) Define weighted aggregate method for constructing an index number.

3) State the common scaling procedure used in psychology and education.

4) What is meant by Z score?

5) Define Vital Statistics.

6) Define Life Table.

7) Mention the different methods of measuring trends.

8) Define Gompertz Curve.

9) State the objective for studying Seasonal Variations.

10) Define Link Relative Method.

Part – B

Answer any FIVE Questions   (**5 x 8 = 40 marks**)

11) Discuss the problems involved in the construction of Index Numbers.

12) Compute Laspyre's ,Paasche's and Fisher Price Index Number for the following data.

	Quantity		Expenditure	
	q_0	q_1	2000	2010
A	100	50	200	900
B	80	100	320	500
C	60	72	150	360
D	30	33	360	297

13) Explain Reliability and Index of Reliability.

14) Explain the terms (i) Crude Death Rate (ii) Specific Death Rate

15) Calculate four-yearly moving average for the following data.

Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Sales	2	6	1	5	3	7	2	6	4	8	3

16) Explain the procedure of " Ratio to Trend Method" .

17) State the limitations of Index Numbers.

18) Explain a Life Table with its notations and terminology.

Answer any TWO Questions   **(2 x 20 = 40 marks)**

19) a) Explain about Cost of Living Index.   **(5 marks)**

b) From the following data, verify Time Reversal Test and Factor Reversal Test.

(15 marks)

	p_0	q_0	p_1	q_1
A	20	8	40	6
B	50	10	60	5
C	40	15	50	15
D	20	20	20	25

20) a) Explain the terms   (i) The Test – Retest Method.

(ii) Parallel Forms Methods.   **(10 marks)**

b) Explain the terms   (i) Crude Birth Rate

(ii) General Birth Rate   **(10 marks)**

21) a) State the uses of Time Series.   **(5 marks)**

b) Fit a straight line by the method of Least Squares

Year	2000	2001	2002	2003	2004	2005	2006	2007
production	76	80	130	144	138	120	174	190

(15 marks)

22) Calculate the seasonal indices by Link Relative Method.

	2010	2011	2012	2013	2014
I	30	35	31	31	34
II	26	28	29	31	36
III	22	22	28	25	26
IV	36	36	32	35	33

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