PG – 1079

I Semester M.B.A. Degree Examination, February 2016
(CBCS) (2014-15 & Onwards)
Management
Paper – 1.4 : STATISTICS FOR MANAGEMENT

Time : 3 Hours

Max. Marks : 70

Instruction : *Calculators and tables are* ***allowed.***

SECTION – A

Answer **any five** questions. **Each** question carries **five** marks. **(5×5=25)**

1. In the frequency distribution of 100 families given below, the median is known to be 50. Find the missing frequencies.

Expenditure	No. of families
0 – 20	14
20 – 40	–
40 – 60	27
60 – 80	–
80 – 100	15
Total	**100**

2. An analysis of the monthly wages paid to workers in two firms A and B belonging to the same industry that gave the following results.

	A	B
Number of wage earners	566	648
Average monthly wage	52.50	47.50
Variance of the distribution	100	121

a) Which firm pays the larger amount as monthly wages ?

b) In which firm you find greater variability in individual wages ?

P.T.O.

3. What is Correlation Analysis ? List and explain its types and uses.

4. Following data are available in respect of sales and advertisement expenditure.

	Sales	Advertisement Expenditure
Mean	70,000	15,000
Standard Deviation	15,000	3,000

Coefficient of correlation is + 0.8

Find the regression equations.

5. Explain Decision Theory along with its advantages and limitations.

6. Two sample polls of votes for two candidates A and B for a public office are taken, one from among residents of rural area and one from urban areas. The results are given below. Examine, whether the nature of the area is related to the voting preference in this election.

Votes for / Area	A	B	Total
Rural	620	380	1000
Urban	550	450	1000
Total	1170	830	2000

7. Explain Bayes theorem and its applications.

SECTION – B

Answer **any three** of the following questions. **Each** question carries **ten** marks. **(3x10=30)**

8. Explain different methods of sampling with examples.

9. Compute Laspeyres, Paasche's and Fisher's price index number for 2015, using the following data concerning three commodities :

	2014		2015	
Commodity	**Price (Rs.)**	**Quantity (Kg)**	**Price (Rs.)**	**Quantity (Kg)**
A	15	15	22	12
B	20	5	27	4
C	4	10	7	5

Also show that it satisfies both Time Reversal Test and Factor Reversal Test.

10. A company appoints four salesmen, A, B, C, D and observes their sales in three seasons – summer, winter and monsoon. The figures (in lakhs) are given in the following table :

	Salesman				
Season	**A**	**B**	**C**	**D**	**Total**
Summer	36	36	21	35	128
Winter	28	29	31	32	120
Monsoon	26	28	29	29	112
Total	90	93	81	96	360

Carry out an analysis of variance.

11. In Bangalore, 400 persons were considered regular consumers of pizzas out of a sample of 1000 persons. In Mangalore, 350 were regular consumers of pizzas out of sample of 800 persons. Test at 1% level of significance, whether there is a significant difference between the two towns as far as the proportion of pizza-eating habits are concerned.

SECTION – C

Compulsory.

(1×15=15)

12. A dietician wants to test 3 different types of diet plans to see if all these plans have similar weight reducing effects or not. He selected a homogenous group of 23 persons and placed them into 3 sub-groups, each sub-group trying a different diet plan. Each plan was tried for a period of 30 days.

The following observations of weight losses in kgs were recorded for members of each group after this period of 30 days.

Diet Plan 1	Diet Plan 2	Diet Plan 3
4.0	3.6	6.5
3.8	5.2	7.2
3.7	2.8	5.9
6.2	3.0	5.5
5.6	3.8	6.8
4.2	5.0	7.7
	3.9	8.0
	5.5	8.2
		7.0