



11. The following are the number of tickets issued by two sales men on 11 days [BTL6]  
 I Sales man: 7 10 14 12 6 9 11 13 7 6 10  
 II Sales man: 10 13 14 11 10 7 15 11 10 9 8  
 Use the sign test at 1% level of significance to test the null hypothesis that on the average the two sales men issue equal number of tickets.

12. In a diet survey the following results were obtained. [BTL1]
- |                         | Hindus | Muslims |
|-------------------------|--------|---------|
| Families taking tea     | 124    | 16      |
| Families not taking tea | 56     | 10      |
- Is there any significant difference between the communities in the matter of taking tea?

13. The percentage of defective parts turned out by the same machine on two consecutive days are 8 and 6. If 500 parts are turned out on each of the two days, would it be justified to claim that the quantity has improved at 1% level of significance? [BTL3]

14. Briefly explain the various tools of descriptive and inferential analysis. [BTL2]

(4x3 = 12 Weightage)

### Part C

*Essay-type questions: Answer any two questions. Weightage 5 for each question*

15. Explain the various methods of quantitative techniques. [BTL1]

16. In a test given to two groups of students the marks obtained were as follows: [BTL2]

Group I: 18 20 36 50 49 36 34 49 41

Group II: 29 26 28 35 30 44 46

Assuming that the group standard deviations are the same and that the marks are normally distributed, test the hypothesis that the group means are equal

17. From the following data relating to the number of units of production per day turned out by 5 different workers using 4 different types of machines, determine whether the mean productivity is same for the different machine types and whether the 5 men differ with respect to mean productivity.

Workers	Machine type				
	A	B	C	D	
1	44	38	47	36	[BTL3]
2	46	40	52	43	
3	34	36	44	32	
4	43	38	46	33	
5	38	42	49	39	

18. In a certain examination, the percentage of passes and distinction were 46 and 9 respectively. Estimate the average marks obtained by the candidates, the minimum pass and distinction marks being 40 and 75 respectively. Assume the distribution of marks to be normal. Also determine what would have been the minimum qualifying marks for admission to a re examination of the failed candidates, had it been desired that the 25% of them should be given another opportunity of being examined. [BTL3]

(2x5 = 10 Weightage)