

2123

**M.Com. (E.& F.B.) First Semester  
FB-104: Business Research**

Time allowed: 3 Hours

Max. Marks: 80

**NOTE:** Attempt five questions in all, selecting atleast two questions from each Unit. All questions carry equal marks.

X-X-X

**Unit-I**

1. Define research. Discuss various types of research with suitable example.
2. Define research design. Discuss various types of research designs and their use in particular context.
3. Explain:
  - a) Type I and Type II error
  - b) Goodness of fit and Test of homogeneity
4. In a certain district A, 450 persons were considered regular consumers of tea out of a sample of 1000 persons. In another district B, 400 persons were regular consumers of tea out of a sample of 800 persons. Do these data indicate a significant difference between the two districts so far as drinking habit is concerned?(Use 5% level)
5. Two random samples drawn from normal population are:

Sample I:	20	16	26	27	23	22	18	24	25	19		
Sample II:	27	33	42	35	32	34	38	28	41	43	30	37

Obtain estimates of the variances of the two populations and test whether two populations have the same variances.

**Unit-II**

6. Explain in context of SQC
  - a) Change and assignable causes of variation.
  - b) Distinguish between partial and multiple correlations.
7. Explain:
  - a) Control charts for attributes.
  - b) Various methods used for decision making under uncertainties.
8. The number of defective needles of sewing machine has been in the following table on the basis of daily inspection. Prepare 'p-chart' and state whether the production process is in control.

Day	1	2	3	4	5	6	7	8	9	10
No. of needles inspected	90	60	70	100	120	50	100	110	100	100
No. of defective needles	5	12	7	3	6	5	10	6	8	25

(2)

9. A newspaper boy has the following probabilities of selling a magazine:

No. of copies sold	10	11	12	13	14
Probability	0.10	0.15	0.20	0.25	0.30

Cost of copy is 30 paise and sale price is 50 paise. He cannot return unsold copies. How many copies should he order? Also calculate EVPI

10. A departmental store gives in service training to its salesman which is followed by a test. It is considering whether it should terminate the service of any salesman who does not do well in the test. The following data give the test scores and sales made by nine salesmen during a certain period:

Test scores	14	19	24	21	26	22	15	20	19
Sales ("000 Rs.)	31	36	48	37	50	45	33	41	39

Calculate the coefficient of correlation between the test scores and the sales. Does it indicate that the termination of services of low test scores is justified? If the firm wants a minimum sales volume of ₹30,000, what is the minimum test score that will ensure continuation of service? Also estimate the most probable sales volume of a salesman making score of 28.

x-x-x