

PART B — (5 × 16 = 80 marks)

11. (a) How would you define a research problem and how would you frame hypothesis for that problem?

Or

- (b) Describe the differences of exploratory and descriptive research with examples and pinpoint the different tests which are used for testing the means.
12. (a) What is Random blocked design and draw the format of ANOVA table?

Or

- (b) Describe the specific situation for which each of the following experimental designs is appropriate. Defend your reason. (i) Factorial Design, (ii) Latin-Square design.
13. (a) Explain the procedure for designing the questionnaire and the interview schedules. What are the basic ingredients in their design?

Or

- (b) Briefly explain the classification of sampling techniques.
14. (a) A result of multiple-regression is as follows

$$R^2 = 0.65$$

$$\text{Sales} = 100 + 0.35 \times \text{Advertisement expenditure} - 0.25 \times \text{Price}.$$

To forecast the sales for a particular period, what information is required and how would you interpret R^2 value and the co-efficient of independent variables.

Or

- (b) Explain the application of cluster analysis and state the different methods of clustering techniques.

15. (a) Find out the communality and specific variance of given factor loading of stock-price data of mentioned companies.

Variables	Factor Loading	
	F1	F2
Allied Chemical	0.684	0.189
Du Pond	0.694	0.517
Union Carbide	0.681	0.248
Exxon	0.621	-0.073
Texaco	0.792	-0.442

Or

- (b) Explain the guidelines for research report writing. Illustrate with examples.
-