

(B) (i) Explain following terms in SPSS :

- (a) Select it
- (b) Filter
- (c) Sort
- (d) Recode.

(ii) Discuss how data is entered by scan function in R. Write command for five point summary and box plot in 'R' programming. 8+8

AQ-912

M.A./M.Sc. (Part—I) Semester—II
(CBCS Scheme) Examination
STATISTICS
Paper—VIII (GIC—B)
(Statistical Tools for Data Analysis)

Time—Three Hours]

[Maximum Marks—80

Note :— Answer either (A) or (B) from each question.

1. (A) (a) Discuss importance of graphical representation of data and throw special light on Histogram.

(b) Define :

(i) Null hypothesis

(ii) Critical region

(iii) Critical value

(iv) Level of significance.

8+8

OR

(B) (i) Explain procedure of drawing pie chart/ diagram. Also discuss its importance in data representation.

- (ii) What are four decisions in testing of hypothesis ? Define type I and type II error. Explain concept of power of the test. 8+8
2. (A) (a) Explain test of significance for testing equality of population means when samples are dependent samples.
- (b) Explain test of significance for equality of population proportions for large sample. 8+8

OR

- (B) (i) If sample size is less than 30, what is the procedure of testing the hypothesis for specific value of mean for normal population.
- (ii) Define Fisher's Z transformation and discuss its uses. 8+8
3. (A) (a) Describe Kolmogorov-Smirnov one sample test.
- (b) Derive formula for χ^2 test for independence of attribute for 2×2 contingency table and explain procedure of the test. 8+8

OR

- (B) (i) What are the advantages and disadvantages of non-parametric method over parametric methods.

- (ii) Describe Cochran-Mantel-Haenzel test and discuss the situation when it is used. 8+8
4. (A) (a) Define correlation coefficient r . Interpret each of the following statements :
- (i) $r = 0$
- (ii) $r^2 = 1$
- (iii) $\eta = 0$
- (iv) $\eta^2 = 1$
- notations have usual meaning.
- (b) State all properties of regression coefficient and prove any one of it. 8+8

OR

- (B) (i) What is coefficient of determination ? What are its limits ? What is its use in regression analysis ?
- (ii) What do you mean by line of regression of Y on X ? Establish equation of this line. 8+8
5. (A) (a) Discuss how to use pivot table option in MS-Excel to create cross tabulation used in data analysis.
- (b) Discuss methods of data input in 'R' software. Explain data frame command in 'R'. 8+8

OR