

Section A: Each Part of this question carries one mark.

1X10=10

1. A Research hypothesis explains
 - (a) Conclusions of the study
 - (b) Relationship between two variables
 - (c) Introduction of the study
 - (d) All the above
2. Gaps in research are identified from
 - (a) Analysis of data
 - (b) Review of literature
 - (c) Methods used
 - (d) Conclusion
3. An example of secondary data source is
 - (a) National sample survey
 - (b) RBI Bulletin
 - (c) Population census
 - (d) All the above
4. Give an example for probability sampling method
 - (a) Simple Random Sampling
 - (b) Area Sampling
 - (c) Quota sampling
 - (d) None of the above
5. In Z distribution the value of Z can be
 - (a) Negative only
 - (b) Positive only
 - (c) Both of above
 - (d) None of the above
6. Chi-square test is used for
 - (a) Association between attributes
 - (b) Significance of correlation co-efficient
 - (c) Slope of regression line
 - (d) Equality between two means
7. T-test is used for
 - (a) Equality of two variances
 - (b) Equality of two means
 - (c) Goodness of fit
 - (d) Association between attributes

8. Multiple regression analysis is not appropriate if there is
- (a) Correlation between dependent and independent variables
 - (b) No relation between error term and slope
 - (c) Multi collinearity between regressors
 - (d) None of the above
9. ANOVA is used for testing
- (a) Nature of relationship
 - (b) Strength of relationship
 - (c) Differences between group means
 - (d) None of the above
10. F-test is used for testing
- (a) Association between attributes
 - (b) Equality of two variances
 - (c) Significance of single mean
 - (d) None of the above

Section B: Short Answer type Questions

Note: Attempt any Five questions out of Eight questions

5X6=30

1. Mention the importance of review of literature in setting the objectives of research study.
2. Define Census enumeration. What are its limitations? What is the need for Sampling?
3. What is the need for stratification? Explain stratified random sampling with an example.
4. Explain briefly about one sample and two sample t test.
5. Define the concept of critical region and show it on a normal curve for a two tailed test for 0.05 levels and 0.01 level.
6. Explain the F test briefly. Mention its two uses with an example each from Economics.
7. Describe the two uses of Chi-Square test with an example each.
8. Explain Analysis of co-variance (ANCOVA) through an example.

Section C: Long Answer type Questions

Note: Attempt any One question from each unit

5X12=60

Unit - I

1. Define Research? Write briefly about three kinds of research in Economics with an example for each.

Or

2. What do you mean by research proposal? Explain various steps followed in writing a research proposal with examples.

Unit - II

3. What are primary data and secondary data? Give two examples from Economics research when to use the above two sources?

Or

4. Differentiate between Questionnaire and Interview schedule. Give 2 examples for each from Economics research.

Unit - III

5. (a) Explain Z test in detail? Write three of its applications in Economics research

(b) The mean lifetime of a sample of 100 bulbs produced by a company is computed as 1570 hrs. and a standard deviation of 120 hrs. If μ is the mean lifetime of all the bulbs produced by the company, test the hypothesis $\mu = 1600$ against the alternative hypothesis $\mu < 1600$ using the significance levels of a) 0.05 and b) 0.01 levels of significance.

Or

6. What do you mean by research report? Explain the various steps in drafting of a research report.

Unit IV

7. What is "Analysis of Variance" and where it is used? Explain one-way and two-way classification of ANOVA with suitable example.

Or

8. Explain in detail the Ordinary Least Square method of estimation? Give two examples where you can apply it in Economics. How this method is better than the graphic method?

Unit V

9. From the data given below, find

- (i) The two regression coefficients.
- (ii) The two regression equations.
- (iii) The coefficient of correlation between sales and purchases
- (iv) The most likely purchases when the sales amount is 154

| | | | | | | | | | | |
|---------------|----|----|-----|-----|----|-----|----|----|-----|----|
| Sales (X): | 91 | 97 | 108 | 121 | 67 | 124 | 51 | 73 | 111 | 57 |
| Purchases(Y): | 71 | 75 | 69 | 97 | 70 | 91 | 39 | 61 | 80 | 47 |

Solution: Denote sales by the variable X and purchases by the variable Y.

Or

10. In an experiment, 11 experimental units were used for the first treatment, 13 for the second treatment, and 18 for the third treatment. Partial Excel output of the Analysis of Variance is reported below:

| ANOVA | | | | |
|---------------------|------|----|----|---|
| Source of Variation | SS | Df | MS | F |
| Treatments | 1200 | | | |
| Error | | | | |
| Total | 1800 | | | |

- a. Compute the missing values in the table.
- b. State the null hypothesis being tested.
- c. At 1% level of significance, null hypothesis, can we reject the null hypothesis?
[You are given, $F(2, 40, 0.05) = 3.23$, $F(2, 40, 0.01) = 5.18$, $F(3, 40, 0.05) = 2.84$, $F(3, 40, 0.05) = 4.31$]