

Pre Ph.D. Course work (2019)

Unit I

1. Why must a researcher review literature? Explain the steps for trend analysis. 7, 5, 5
2. What do you understand by operational definition? Define hypothesis. Explain different types of hypotheses while giving an example in each. 3, 2, 10

Unit II

1. Illustrate steps of historical method of research with one example. 15
4. a) Describe the following types of experimental designs: Pre-experimental, quasi-experimental, true and factorial designs. 8
- b) Explain any two types of true experimental designs. 7

Unit III

5. Define sampling bias and sampling errors. Which of the two probability or non probability sampling has more of bias errors? Justify your answer by considering further types of sampling and giving examples. 15
6. a) How would you select a standardized test for a variable? 7
- b) Discuss observation as a technique of research. 8

Unit IV

- a) Define correlation. When is a point biserial correlation selected to be used? 3, 2
- b) Which correlation will be used on following data and why? 2
- c) Use a suitable method of correlation on following data and report its significance. 8

Scores →	40-	50-	60-	70-	80-	90-	100-	110-	120-	130-	n
Pass/Fail ↓	49	59	69	79	89	99	109	119	129	139	
Passing	-	1	3	10	27	30	26	21	7	5	130
Failing	2	6	4	11	21	16	7	3	-	-	70

8. Enumerate assumptions of analysis of variance. Calculate F-Ratio from following set of data and report whether experimental conditions (A_1 , A_2 , A_3 & A_4) differ significantly. 2, 11

A_1	A_2	A_3	A_4
114	119	112	117
115	120	116	117
111	119	116	114
110	116	115	112
112	116	112	117

Unit V

9. Explain the criteria of a good research proposal? - 15
10. Define plagiarism. Mention various ethical issues in research. Explain while giving examples in each. 3, 12

Unit VI

11. Differentiate any five of the following pairs 3 each
- a) Probability and non probability sampling
 - b) Qualitative and quantitative research
 - c) Parametric and non-parametric tests
 - d) Primary and secondary sources of literature
 - e) Bibliography and references
 - f) Kruskal Wallis test and ANOVA