

Utkal University  
MTech (CSE), 3rd Semester-2020  
Sub: Research Methodology (3.3)  
(Answer any Five Questions)

Full Mark=70

Time=3hr

Answers should be precise. You have to answer either a) or b)

1. [14 marks]
  - a. How do you define a research problem? Give three examples to illustrate your answer.  
OR
  - b. What are the techniques involved in defining a research problem? Please illustrate the techniques using an example.
2. [14 marks]
  - a. What do you mean by research? Explain its significance in modern times.  
OR
  - b. What are the types of research (Give at least five such categorical types)? Give at least one example for each.
3. [14 marks]
  - a. Please give an overview of the research process. Add a diagram to illustrate your answer.  
OR
  - b. What are the important sampling techniques used in research? State at least 7. Illustrate the techniques using examples.
4. [14 marks]
  - a. What are the problems faced by Researchers in India? Hint: 10 points.  
OR
  - b. What are criteria and qualities of good research? Illustrate with examples.
5. [14 marks]
  - a. What is univariate data? What are the techniques used to analyze univariate data?  
OR
  - b. What is bivariate data? What are the techniques used to analyze the relationship between them?
6. [14 marks]
  - a. What are random variables? What are the four common random variables types? Please accommodate the sample R code to generate them.  
OR
  - b. Write short notes on the following with examples:
    - i. Hypothesis Testing
    - ii. Confidence intervals
    - iii. T-test
    - iv. Z-test
    - v. Chi-squared test

7. [14 marks]

a. What are the various sections of a research proposal? You may recall your assignment and explain the various sections through the same example.

OR

b. What are the criteria for a good publication? Please illustrate the various criteria with examples.