

Reg. No.

Question Paper Code

11944

**M.E. / M.Tech. - DEGREE EXAMINATIONS, APRIL / MAY 2023**

Third Semester

**M.E. - CAD / CAM**

**20PCDPC301 - RESEARCH METHODOLOGY**

(Regulations 2020)

Duration: 3 Hours

Max. Marks: 100

**PART - A (10 × 2 = 20 Marks)**

Answer ALL Questions

- |   | <i>Marks,<br/>K-Level, CO</i> |
|---|-------------------------------|
| 1. What are the significances of Research?                                  | 2,K2,CO1                      |
| 2. Briefly enlist various steps in the research process.                    | 2,K1,CO1                      |
| 3. Write lucid notes on the Experimentation Method.                         | 2,K2,CO2                      |
| 4. Differentiate questionnaire and schedule.                                | 2,K2,CO2                      |
| 5. Define rating scales.  | 2,K1,CO3                      |
| 6. How is Probability sampling different from Non-Probability sampling?     | 2,K2,CO3                      |
| 7. What is the significance of formulating the hypothesis in research work? | 2,K2,CO4                      |
| 8. What are the precautions to bear in mind while using a chi-square test?  | 2,K2,CO4                      |
| 9. What are the guidelines for preparing a good research report?            | 2,K2,CO5                      |
| 10. What is a footnote?   | 2,K1,CO5                      |

**PART - B (5 × 13 = 65 Marks)**

Answer ALL Questions

11. a) (i) Elaborate on the various types of research classified based on the objective, depth of study, analyzed data, and other factors. 8,K2,CO1  
(ii) Discuss on the objectives of research. 5,K2,CO1

**OR**

- b) Explain in detail about all the criteria to select the research problem techniques involved in defining the problem. 13,K2,CO1

12. a) Explain with suitable examples cluster and purposive sampling design. 13,K2,CO2

**OR**

- b) Describe the process to literature searching in systematic reviews with a case study of your own. 13,K2,CO2

*K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyze; K5 – Evaluate; K6 – Create*

**11944**

13. a) What are the sources of secondary data and how will you differentiate it from primary data? *13,K2,CO3*

**OR**

b) Explain questionnaire as a tool for data collection. Mention its advantages and its disadvantages. *13,K2,CO3*

14. a) What do you understand by hypothesis? Explain its importance. Discuss on different types of hypotheses. *13,K2,CO4*

**OR**

b) Which statistical test can be used to check the equality of proportions in more than two categories? Explain in detail to perform the test. *13,K2,CO4*

15. a) Describe the steps involved in the techniques of interpretation. *13,K2,CO5*

**OR**

b) Explain in detail about the steps to be followed in writing a research report with its layout. *13,K2,CO5*

**PART - C (1 × 15 = 15 Marks)**

16. a) What is a research design? Throw light on the importance of designing and conducting a research project. *15,K3,CO2*

**OR**

b) Give a detailed account on the qualitative method of research with its characteristics. *15,K3,CO3*