

CBCS SCHEME

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20RMI17

First Semester M.Tech. Degree Examination, Feb./Mar. 2022 Research Methodology and IPR

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. Define research. Explain the following types of research.
- (i) Descriptive versus analytical
 - (ii) Applied versus fundamental
 - (iii) Quantitative versus qualitative
 - (iv) Conceptual versus empirical
- (10 Marks)
- b. With a neat block diagram, explain steps involved in a research process. (10 Marks)

OR

- 2 a. Briefly explain any six problems encountered by researchers in India. (06 Marks)
- b. Describe any six qualities of good research. (06 Marks)
- c. Explain the techniques involved in defining a research problem. (08 Marks)

Module-2

- 3 a. Explain how literature review helps in narrowing the research work. (10 Marks)
- b. Explain the steps involved in conducting literature review. (10 Marks)

OR

- 4 a. Explain the meaning of the following in context of research design:
- (i) Extraneous variable
 - (ii) Confounded variable
 - (iii) Research hypothesis
 - (iv) Experimental and control groups
 - (v) Treatments
- (10 Marks)
- b. Explain the following research design:
- (i) Randomized block design
 - (ii) Latin square design
- (10 Marks)

Module-3

- 5 a. Explain sampling and non-sampling errors. (06 Marks)
- b. Explain the following sampling design:
- (i) Cluster sampling
 - (ii) Multi-stage sampling
- (06 Marks)
- c. Explain the stages of developing measurement tools. (08 Marks)

OR

- 6 a. Briefly explain the following methods of primary data:
- (i) Observation method
 - (ii) Telephonic interview
 - (iii) Personal Interview
 - (iv) Questionnaires
- (10 Marks)
- b. Explain the important characteristics of case study method. (10 Marks)

Module-4

- 7 a. Distinguish between the following:
- (i) Null hypothesis and alternative hypothesis
 - (ii) Type I error and Type II error
 - (iii) One tailed and two tailed test
 - (iv) Critical value and decision value
- (10 Marks)
- b. Explain hypothesis testing method for variance. (10 Marks)

OR

- 8 a. Describe and illustrate with an example power of hypothesis test. (10 Marks)
- b. Explain the characteristics of hypothesis. (10 Marks)

Module-5

- 9 a. Explain in brief the layout of research report. (10 Marks)
- b. Explain the following types of reports:
- (i) Technical report
 - (ii) Popular report
- (10 Marks)

OR

- 10 a. Explain the procedure for filling patent application. (10 Marks)
- b. Enumerate the salient features of the Trade Marks Act 1999. (10 Marks)

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