62471

Reg. No. P 1 8 I W 2 1 5 0005

# III Semester M.C.A. Degree Examination, June/July - 2023

## COMPUTER SCIENCE

## Research Methodology

## (CBCS Scheme Y2K20)

## Paper: 3MCA3

**Time : 3 Hours** **Maximum Marks : 70**

***Instructions to candidates:***

1) Answer any **five** questions from section-A, each question carries **6** marks.

2) Answer any **four** full questions from section-B, each question carries **10** marks.

### SECTION - A (5×6=30)

1. Define research and discuss the objectives of research.
2. Synthesizing and critical analysis of a problem are two important phases of research - Justify.
3. Explain the discrete probability distribution with an example.
4. Calculate the correlation coefficient of given data.

| X | 50 | 51 | 52 | 53 | 54 |
|---|---|---|---|---|---|
| Y | 3.1 | 3.2 | 3.3 | 3.4 | 3.5 |



5. Discuss frequency distribution.
6. Explain the steps involved in simulated annealing algorithm.
7. What is the role of SPSS in data analysis?
8. List the items in a research report and explain them briefly.

### SECTION - B (4×10=40)

9. List and explain the various steps involved in the research process.
10. Define time series and explain various components of time series.
11. Briefly explain the types of plots.
12. Discuss genetic algorithms.

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13. Explain soft computing and learning in fuzzy systems with appropriate diagram.

14. Mention the different types of reports, particularly pointing out the difference between a technical report and a popular report.

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