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Roll No.



S. No. of Question Paper : **9310**

Unique Paper Code : **2343010020**

Name of the Paper : **Research Methodology (Computer Science)**

Name of the Course : **Discipline Specific Elective**

Semester : **VII (2022 onwards)**

Duration : **3 Hours**

Maximum Marks : **90**

*(Write your Roll No. on the top immediately on receipt of this question paper.)*

All parts of Question No. 1 (Section A) are compulsory.

Attempt any *four* questions from Section B.

Parts of a question must be answered together.

Use of scientific calculator is allowed.

### Section-A

1. (a) What is running royalty ? How is it related to Copyright ? 3
- (b) Give *three* distinguishing characteristics of the normal distribution. 3
- (c) When is acknowledgement inserted in a research report ? Give an example. 3

P.T.O.

- (d) What do you mean by Academic Search Engine ? Give an example. 3
- (e) Which of the following tasks can be termed as research ? Justify your answer : 3
- (i) Presenting the attendance obtained by the students of a college in a semester.
- (ii) Statistically analysing the marks obtained by the students of a college in a semester exam.
- (f) In a competition of 200 participants, one participant achieved 75th rank. What will be the percentile score ? Interpret the meaning of the obtained percentile in your words. 3
- (g) How is Trademark different from Patent ? 3
- (h) What is Plagiarism ? Name any *two* plagiarism detection tools. 3
- (i) In a research report, it is necessary to include additional notes. Which would be used – footnotes or endnotes ? Justify your answer. 3
- (j) Explain any *three* features that a spreadsheet tool offers to a researcher for data analysis. 3

### Section-B

2. (a) What do you mean by CiteScore ? A researcher has published 10 papers. The number of citations for each paper : 4, 6, 7, 2, 25, 37, 16, 67, 45 and 56. Calculate the h-index, i10-index and g-index of this researcher. 7.5
- (b) Explain any *three* aspects that are to be kept in mind while planning the literature search. 7.5

3. (a) Briefly explain the *seven* steps of research. 7.5
- (b) When sending a paper for review, what type of questions should be sent to the referees ? Briefly explain any *three*. 7.5
4. (a) Write any *two* differences between the following : 3×2.5
- (a) Induction and Deduction in Research
- (b) Continuous and Discrete Variables
- (c) Prospective and Retrospective research.
- (b) A journal published 155 articles in 2021, 195 articles in 2022 and 235 articles in 2023. In 2024, the journal received 500 citations for articles published in 2021, 900 for articles published in 2022 and 1100 for articles published in 2023. What will be the Impact Factor and Cite-Score of the journal in the year 2024 ? 7.5
5. (a) In India, what are the levels of penalties that will be imposed on those who plagiarise for academic work ? Which authority will decide the level of penalties ? 7.5
- (b) Consider the following marks obtained by a student :
- 45, 57, 89, 95, 71, 62, 75, 88, 96, 83
- Claculate mean, median, mode, standard deviation and range for this data. 7.5

6. (a) Briefly explain the chapters that should be part of the body of a Research Report. 7.5

(b) Identify the measurement of scale for each of the following. Justify your answer : 5×1.5

(i) Blood Group of patients

(ii) Number of houses owned by a company

(iii) Satisfaction level of an employee

(iv) Ranking of students in test

(v) Height of members of family.

7. (a) What is GI Tag ? How is it related to the TRIPS Agreement ? When was GI enacted in India ? Which organisation manages the GI Act in India ? Give any *three* examples of products with a GI tag. 7.5

(b) A manufacturer claims that the pen can write to 200 meters. A sample of 8 pens is tested, and distances written (in meters) are as follows :

190, 205, 195, 210, 215, 185, 180, 175

At 5% level of significance, test whether the company's claim is justified.

Use t-test for population mean :

7.5

t-table (two-tailed critical values)

df	0.10	0.025	0.005
6	1.943	2.447	3.707
7	1.895	2.365	3.499
8	1.860	2.306	3.355