

(b) What is Plagiarism and why is it a problem in research?

(c) What do you understand by h-index for a researcher? If a researcher has 10 publications with each of them having citations 12, 7, 4, 8, 9, 6, 6, 4, 3, 9 respectively, what will be his h-index?



[This question paper contains 4 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 9537 **K**

Unique Paper Code : 2353010015

Name of the Paper : Research Methodology

Name of the Course : **Bachelor of Arts / Bachelor of Science (Programme)**

Semester : VII – DSE

Duration : 3 Hours

Maximum Marks : 90

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. All **six** questions are compulsory, attempt any **two** parts from each question.
3. All questions carry equal marks.

1. (a) What are the key points to consider in order to identify a good research topic?
- (b) Differentiate between projector presentation and chalk board presentation.

- (c) Explain the importance of writing an introduction in a research paper. What points should we keep in mind while writing the introduction?
2. (a) What should we take into account before we start marking a presentation?
- (b) Differentiate between a Theorem, a Conjecture and a Proposition with examples.
- (c) After paper submission in a journal, what are the different kinds of reviews one may get from reviewers? Elaborate.
3. (a) What is the use of cross-referencing in LaTeX? Describe the steps to insert a figure, assign it a label, and reference it in the text.
- (b) Discuss the role of the equation and align environments in LaTeX for typesetting mathematical content. Compare their functionalities and indicate when one is preferred over the other.
- (c) Write a minimal LaTeX code structure for a report document class that includes a title, author, the current date on a dedicated title page and bibliography.

4. (a) Explain the functionality and give an example for the following LaTeX commands :
 $\backslash label$, $\backslash ref$, and $\backslash cite$.
- (b) Describe how the $\backslash vspace\{\}$ and $\backslash hspace\{\}$ commands are used in LaTeX. Discuss why and when explicit spacing might be necessary to achieve the desired document formatting with examples.
- (c) Contrast oral and poster presentation formats in context of LaTeX, highlighting how each approach influences audience interaction and the clarity of communication for advanced mathematical material.
5. (a) How is MathSciNet different from Scopus?
- (b) What are the advantages and disadvantages of using arXiv?
- (c) Give a brief note on some of the web resources used to do mathematical research.
6. (a) What are the consequences of copyright infringement?