

**PCH2MC03 – SCIENTIFIC RESEARCH METHODOLOGY AND COMMUNICATIONS**

Date: 29-04-2025

Dept. No.

Max. : 100 Marks

Time: 01:00 PM - 04:00 PM

SECTION A – K1 (CO1)**Answer ALL the questions****(5 x 1 = 5)****1 Answer the following**

- a) What is paraphrasing plagiarism?
- b) Define outlines.
- c) What is the abbreviated form of “*Journal of Environmental Science and Technology*”?
- d) Indicate the utility of PUBMED.
- e) When is line graph used in scientific writing?

SECTION A – K2 (CO1)**Answer ALL the questions****(5 x 1 = 5)****2 Fill in the blanks**

- a) Books are examples for _____.
- b) _____ is a strategy for answering research questions using data.
- c) A _____ is a list of sources of information that were used to research a piece of work.
- d) _____ is primarily used to draw and edit chemical structures and reactions.
- e) The full form of MLA is _____.

SECTION B – K3 (CO2)**Answer any THREE of the following****(3 x 10 = 30)**

- 3 What are the types of plagiarism in scientific reporting? Illustrate any two methods to avoid plagiarism in a scientific reporting.
- 4 Discuss the different components of a research paper.
- 5 Illustrate the salient features of technical and non-technical communications.
- 6 How are Google Scholar and Web of Science useful in performing literature search?
- 7 Utilizing the MS-Excel program, how can one plot the different types of graphs?

SECTION C – K4 (CO3)**Answer any TWO of the following****(2 x 12.5 = 25)**

- 8 Discover the different types of research in detail.
- 9 Dissect the various components of research proposal. Name any two funding agencies for research.
- 10 List the tools available for citing and referencing. Explain salient features of any two tools.
- 11 How are tables and figures effectively used in research papers?

SECTION D – K5 (CO4)

	Answer any ONE of the following (1 x 15 = 15)
12	Explain the following in detail: (i) Patents (ii) CASSI (iii) Benefits of Book chapter
13	(a) Write the name of the journals: (i) <i>J. Biol. Chem.</i> (ii) <i>Inorg. Chem. Front.</i> (iii) <i>J. Am. Chem. Soc.</i> (iv) <i>J. Chem. Inf. Model.</i> (b) Explain the guidelines and designing ways to scientific poster presentations. (8+7)

SECTION E – K6 (CO5)

	Answer any ONE of the following (1 x 20 = 20)
14	(a) Elaborate the differences between research methods and research methodology. How do these two differ from research techniques? (b) Discuss the art of thesis writing. (10+10)
15	(a) Explain the importance of h-index in evaluating a researcher's impact and productivity. (b) Discuss the simple steps involved in electronic submission of manuscripts? (10+10)
