

STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI-86
(For candidates admitted during the academic year 2023-24 & thereafter)

SUBJECT CODE: 23CH/PC/RM34

M.Sc. DEGREE EXAMINATION, NOVEMBER 2024
BRANCH IV - CHEMISTRY
THIRD SEMESTER

COURSE : MAJOR CORE

PAPER : RESEARCH METHODOLOGY (THEORY)

TIME : 90 Mins

MAX. MARKS : 50

Q. No	SECTION A	CO	KL
1	Answer all Questions (5x 1=5)		
(i)	The _____ database is a large database of organometallic and inorganic compounds updated quarterly. (a) Beilstein (b) Gmelin (c) Chemical abstract (d) pubchem	CO1	K1
(ii)	_____ are books that examine a single topic in detail. Mostly they are written by one author (a) Monographs (b) Proceedings (c) Full-text articles (d) Methods	CO1	K1
(iii)	Identify the correct format for writing the SI unit in the following (a) g. cm ² . s ⁻² (b) g. cm ² / s ² (c) g cm ² sec ⁻² (d) g cm ² s ⁻²	CO1	K1
(iv)	Which of the following cannot be copyrighted? (a) Slogan (b) poem (c) photograph (d) software code	CO1	K1
(v)	Ibid. is an abbreviation of the Latin word _____ with a meaning _____ (a) ibidul, from the same author (b) ibidem, from the same author (c) ibidem, in the same place (d) ibidul, in the same place	CO1	K1
2	Answer all Questions (5x 1=5)		
(i)	_____ is a collection of academic papers published in the context of an academic conference or workshop.	CO2	K2
(ii)	The full form of ACS is _____	CO2	K2
(iii)	<i>Appl. Organomet. Chem.</i> is the abbreviation of _____	CO2	K2
(iv)	Classify the following into primary, secondary, and tertiary forms of literature (a) Review Article (b) Encyclopaedia	CO2	K2
(v)	Explain H-index.	CO2	K2
	SECTION B Answer any TEN (10x 2=20)	CO	KL
3	Illustrate the difference between graphical abstracts and abstracts in chemical science journals.	CO3	K3
4	How would you apply the rules for writing SI unit symbols in a scientific report? Write an example that correctly uses SI unit symbols in context.	CO3	K3

5	Expand the abbreviation viz., and use it to rewrite the following sentence. The two main forms of renewable energy, namely solar and wind power, are crucial for reducing carbon emissions.	CO3	K3
6	How would you use a bibliography to enhance your thesis? Provide two advantages.	CO3	K3
7	How would you apply the do's and don'ts when writing an abstract? Give examples of what to include and avoid.	CO3	K3
8	Give any two uses of footnotes in thesis writing.	CO3	K3
9	How can a chemist use reaction databases to enhance their research? Explain two benefits of using these databases.	CO3	K3
10	Give any two advantages of the peer review process in improving the quality of research papers.	CO3	K3
11	What is the main difference between the general format of a review article vs. a full-text research article?	CO3	K3
12	Using the following data, calculate the impact factor of the journal Number of citations: 150 citations Number of articles published: 50 articles	CO3	K3
13	Read the reference given below and answer the questions. M. Weller *, T. Overton, J. Rourke and F. Armstrong, <i>Inorganic Chemistry</i>, Oxford University Press, Oxford, 2014. (a) The above reference is for a book/ Journal. Give reason. (b) What does the * against the first author mean?	CO3	K3
14	How do key words benefit a research article? Provide two advantages.	CO3	K3
SECTION C Answer the following questions (4 x 5=20)		CO	KL
15	(a) Write a short note on plagiarism, discussing its consequences and how to avoid it in scholarly work. (or) (b) Explain the steps involved in publishing an article in a scientific journal.	CO4	K4
16	(a) Differentiate between primary, secondary, and tertiary sources of literature. (or) (b) Discuss with examples different types of Figures used in a research article.	CO4	K4
17	(a) Explain the importance of citation/Bibliography in a research article. (or) (b) How do ScienceDirect and SciFinder each benefit research? Write a short note on the advantages of both.	CO5	K5
18	(a) Explain the importance of intellectual property rights. (or) (b) Justify the use of Ethical Guidelines for the Publication of Chemical Research.	CO5	K5

