

(6 pages)

Reg. No. :

Code No. : 5883

Sub. Code : PCHM34

M.Sc. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2020.

Third Semester

Chemistry — Core

SCIENTIFIC – RESEARCH METHODOLOGY

(For those who joined in July 2017 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Conference proceedings are considered as
_____ documents.
 - (a) Conventional
 - (b) Primary
 - (c) Secondary
 - (d) Tertiary

2. Surveys are conducted in case of _____
research studies.
- (a) Experimental
 - (b) Descriptive
 - (c) Undescriptive
 - (d) Confusing
3. Each weekly issue of CA contains indexes by _____.
- (a) Author only
 - (b) Author and subject keyword
 - (c) Author and patent number
 - (d) Author, subject keyword and patent number
4. Molecular formula are listed in _____ order.
- (a) Mill
 - (b) Hill
 - (c) Cill
 - (d) Gill
5. The first page of the research report is _____
- (a) Appendix
 - (b) Bibliography
 - (c) Index
 - (d) Title page

6. A research paper is a brief report of research work based on _____.
- (a) Primary data only
 - (b) Secondary data only
 - (c) Both primary and secondary data
 - (d) None of the above
7. The Chi – Square test is used for testing the _____.
- (a) Hypothesis
 - (b) Quantity
 - (c) Quality
 - (d) None of the above
8. The term standard deviation is commonly called in statistics as a measure of _____.
- (a) Significant figures
 - (b) Accuracy
 - (c) Precision
 - (d) Mean
9. Science direct is _____ leading information solution for researchers.
- (a) Elsevier's
 - (b) Springer's
 - (c) RCS
 - (d) ACS

10. Scifinder is the most comprehensive information discovery tool for _____ and related information.
- (a) Politics
 - (b) Army
 - (c) Automobile
 - (d) Chemical

PART B — ($5 \times 5 = 25$ marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) Give a brief account on chemical titles.
- Or
- (b) Write a short notes on current contents.
12. (a) Discuss the importance of service source index.
- Or
- (b) Give a brief account on CA issue indexes.
13. (a) Explain the methodology of writing references.

Or

- (b) Write explanatory notes on the following :
- (i) Descriptive abstracts (2.5 + 2.5)
 - (ii) End notes

14. (a) Explain the significance of 'T' test and Q-test.

Or

- (b) How will you reduce systematic error in an experiment?

15. (a) Give a short account of impact factors.

Or

- (b) Write a note on Chemport.

PART C — ($5 \times 8 = 40$ marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Discuss the primary and secondary sources in literature search.

Or

- (b) Explain briefly the reviews and monographs.

17. (a) Discuss in detail about CA collective indexes.

Or

(b) Give a detailed account of retrospective searching.

18. (a) Explain how would you select a research problem.

Or

(b) Narrate the care to be taken while writing a report and a journal article.

19. (a) Discuss the principle and sample preparation of XRD technique.

Or

(b) How is the surface analysis of the polymers carried out using

(i) SEM and

(ii) TEM techniques. (4 + 4)

20. (a) Give a brief account on online browsing of research articles.

Or

(b) Give a detailed account of writing project proposal to UGC.