

(7 pages)

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M.Sc. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2017.

Third Semester

Chemistry

SCIENTIFIC - RESEARCH METHODOLOGY

(For those who joined in July 2016-2017)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Which of the following statements is wrong?

- (a) Reviews and research articles can be published in the same journal
- (b) Review articles will not contain reference section
- (c) Research articles will be sent for peer-reviewing
- (d) Review article summarises the previously published results

2. Chemical titles is a

- (a) weekly publication
- (b) biweekly publication
- (c) monthly publication
- (d) bimonthly publication

3. The subject index of chemical abstracts was divided into substance index and general subject index from

- (a) 1962
- (b) 1972
- (c) 1982
- (d) 1992

4. Chemical abstracts cover the patent details from

- (a) America only
- (b) America and European countries only
- (c) More than 15 countries
- (d) All the countries

5. Which of the following statements is wrong?

- (a) Footnotes need not be references
- (b) Footnotes may be placed at the end of the tables also
- (c) A footnote marker can be placed in bracket or as superscript
- (d) All the published articles should carry footnotes other than references

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6. What is meant by plagiarism?
- (a) abusing other scientists in the same field
 - (b) contradicting the other scientists research reports
 - (c) giving cooked up data
 - (d) publishing the already reported idea again
7. The significant figure for 0.00052 is
- (a) 2
 - (b) 4
 - (c) 5
 - (d) none of these
8. The common UV spectral range is
- (a) 200 nm to 400 nm
 - (b) 400 nm to 1200 nm
 - (c) 1800 nm to 4000 nm
 - (d) 100 nm to 4000 nm
9. The journal of organic chemistry is published by
- (a) Elsevier
 - (b) Springer
 - (c) American chemical society
 - (d) Taylor and Francis

10. Citation details of an author can be obtained from
- (a) Scifinder
 - (b) Scientific bodies
 - (c) Funding agencies
 - (d) None of these

PART B — (5 × 5 = 25 marks)

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

Each answer should not exceed 250 words.

11. (a) Patent is a form of intellectual property. Substantiate this statement.
- Or
- (b) Distinguish between text books, journals, monographs and scientific magazines.
12. (a) Explain the uses of formula index in chemical abstracts.
- Or
- (b) What is a diceninem index? Explain its significance.
13. (a) Discuss the role of research supervisors during a scientific investigation.
- Or
- (b) Write a note on the care to be taken while presenting the data in a thesis.



14. (a) Indicate how a single crystal has to be grown for x-ray analysis.

Or

- (b) Explain the role of nujol and KBr in IR spectral sample preparation.
15. (a) What are the informations available in a journal's homepage on online access?

Or

- (b) List out the journals published by American chemical society.

PART C — (5 × 8 = 40 marks)

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

Each answer should not exceed 600 words.

16. (a) Give a detailed account of searching the literature for different synthetic methods.

Or

- (b) Write notes on :
- (i) The need for a proper literature survey during a scientific investigation
 - (ii) Different sources of literature.

17. (a) Give on extensive account of the usage of chemical abstracts.

Or

- (b) Explain in detail how chemical abstracts services as a perfect secondary source of literature.

18. (a) Distinguish between

- (i) end note and foot note and
- (ii) descriptive abstract and information abstract.

Or

- (b) Write notes on :
- (i) Bibliography
 - (ii) Research communications.

19. (a) Write notes on :

- (i) Accuracy of analysis
- (ii) Q-test.

Or

- (b) Indicate how the results are to analysed from SEM, TEM and AFM experiments.



20. (a) Write notes on :

- (i) STN International
- (ii) Impact factor of a journal.

Or

(b) Explain the role of UGC, CSIR and DST in supporting the academic research in India.

