

(FOR THE CANDIDATES ADMITTED

24PCY2E1

DURING THE ACADEMIC YEAR 20 24 ONLY)

REG.NO.

N.G.M.COLLEGE (AUTONOMOUS) : POLLACHI

END-OF-SEMESTER EXAMINATIONS : MAY-2025

M.Sc CHEMISTRY

MAXIMUM MARKS: 75

SEMESTER-II

TIME : 3 HOURS

**PART - III**

**GREEN CHEMISTRY, RESEARCH METHODOLOGY AND CYBER SECURITY**

**SECTION – A (10 X 1 = 10 MARKS)**

**ANSWER THE FOLLOWING QUESTIONS.(K1)**

1. Identify the non-toxic and green solvent from the below.  
a) water    b) Benzene    c) Carbon tetrachloride    d) Toluene
2. The green synthesis methods should have \_\_\_\_\_.  
a) Low efficiency    b) High harmful products  
c) Low energy requirements    d) Low atom efficiency
3. Which of the following is not type of patent –  
(a) Utility patents    (b) Copyright    (c) Design patents    (d) Plant patents
4. Which of the following is the type of software that has self-replicating software that cause damage to files and system?  
a) Viruses    b) Trojan horses    c) Bots    d) Worms
5. McAfee is an example of  
a) Photo Editing Software    b) Quick Heal    c) Virus    d) Antivirus

**ANSWER THE FOLLOWING IN ONE (OR) TWO SENTENCES**

**(K2)**

6. Give an example for solvent less reaction.
7. Give two uses of microwave.
8. What is plagiarism?
9. Define authentication.
10. What is firewall?

**SECTION – B**

**(5 X 5 = 25 MARKS)**

**ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS. (K3)**

11. a) Describe how to plan a green synthesis in a chemical laboratory.

**(OR)**

- b) Discuss about selection of a solvent for greener methods of synthesis.

12. a) Describe the phase transfer catalysts.

**(OR)**

- b) Elucidate atom economy with suitable examples.

13. a) Write note on web of science and Scopus listed journals.

**(OR)**

- b) Summarize the types of research.

**ETHICAL PAPER**

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14. a) Write short notes on Cyber security.

(OR)

- b) Write briefly about password system.

15. a) Discuss briefly about vulnerability auditing.

(OR)

- b) Explain briefly about memory exploits

**SECTION – C**

**(5 X 8 = 40 MARKS)**

**ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS.(K4/K5)**

16. a) Illustrate the twelve principles of green chemistry with suitable example.

(OR)

- b) Discuss closed-vessel heating and sonication method for the greener synthesis

17. a) Explain about solid supported organic synthesis.

(OR)

- b) Describe the any four specific green reactions with mechanism.

18. a) Give a detailed account of intellectual property rights, copyright, patents, trade secrets

(OR)

- b) Explain various reference styles

19. a) Write an essay on malicious softwares.

(OR)

- b) Give a detailed account on windows security.

20. a) Discuss about hacking and intrusion.

(OR)

- b) Analyse and write an essay on cyber crime.

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