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(FOR THE CANDIDATES ADMITTED DURING THE ACADEMIC YEAR 2022-23 ONLY)

SUBJECT CODE 22 PCY 2E1

REG.NO.

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

END-OF-SEMESTER EXAMINATIONS: MAY – 2023

M.Sc. – CHEMISTRY **MAXIMUM MARKS: 50**

II SEMESTER **TIME: 3 HOURS**

GREEN CHEMISTRY, RESEARCH METHODOLOGY & CYBER SECURITY

SECTION – A (10 X 1 = 10 MARKS)

ANSWER THE FOLLOWING QUESTIONS.

MULTIPLE CHOICE QUESTIONS. (K1)

1. Which one of the following is a primary source?

   a) Text book b) Encyclopedia c) Journals d) All of these

2. Identify the non-toxic and green solvent from the below _____.

   a) Liquified carbondioxide b) Benzene

   c) Carbon tetrachloride d) Toluene

3. What is the major attribute of Correlation Analysis?

   a) Association among variables b) Difference among variables

   c) Regression among variables d) Variations among variables

4. _____ is the science and art of transforming messages to make them secure and immune to attacks

   a) Cryptography c) Cryptanalysis

   b) Calligraphy d) None of these

5. Which of these is a part of network identification?

   a) User id b) Password c) Otp d) Finger print

ANSWER THE FOLLOWING IN ONE (OR) TWO SENTENCES. (K2)

6. Write any three basic principles of green chemistry.
7. Give an example for solvent less reaction.
8. What are the three main methods of research?
9. Define authentication.
10. Why is network security?

SECTION – B (5 X 3 = 15 MARKS)

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

11. a) Elucidate atom economy with suitable examples.

(OR)

b) Describe atom efficient process and atom efficiency.

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12. a) Discuss microwave assisted greener synthesis reaction.

(OR)

b) Demonstrate how to select a solvent for greener methods of synthesis.

13. a) Explain the importance of research.

(OR)

b) What do you know about Intellectual property rights, discuss its types?

14. a) Describe the Trojans, root kits and worms.

(OR)

b) Illustrate the basic concept of cryptography.

15. a) Discuss the elements of software security.

(OR)

b) Explain briefly about cybercrime.

SECTION – C (5 X 5 = 25 MARKS)

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

(K4 (Or) K5)

16. a) Elaborate how to plan a green synthesis in a chemical laboratory.

(OR)

b) Discuss the role and need of green chemistry in chemical synthesis.

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

(OR)

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

18. a) Explain the primary and secondary sources of literature.

(OR)

b) Describe the important criterias of good research.

19. a) Explain format string.

(OR)

b) Write the importance of password system.

20. a) Give a detailed account of Windows security.

(OR)

b) Elaborate the cyber security.

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