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(FOR THE CANDIDATES ADMITTED

21 PCY 2EA

DURING THE ACADEMIC YEAR 2021 ONLY)

REG.NO. :

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

END-OF-SEMESTER EXAMINATIONS: JULY 2022

M.Sc.-CHEMISTRY

MAXIMUM MARKS: 70

II SEMESTER

TIME : 3 HOURS

GREEN, NANO CHEMISTRY AND CYBER SECURITY

SECTION - A (10 X 1 = 10 MARKS)

ANSWER THE FOLLOWING QUESTIONS.

MULTIPLE CHOICE QUESTIONS.

(K1)

- Expand PTC\_\_\_\_\_.
  - Phase Transfer Catalyst
  - Phase Transition Catalyst
  - Phase Transferred Catalyst
  - Partial Transfer Catalyst
- The prefix "nano" comes from\_\_\_\_\_.
  - French word billion
  - Greek Word Dwarf
  - Spanish word particle
  - Latin word invisible
- Choose the odd one out\_\_\_\_\_.
  - Manuscript
  - Web of science
  - Scopus
  - Science citation index
- Which of the following is a type of cyber security?
  - Cloud Security
  - Network Security
  - Application Security
  - All of the above
- In computing, \_\_\_\_\_ is a network security system that monitors and controls incoming and outgoing network traffic based on predetermined security rules.
  - Firewall
  - virus
  - cloud
  - All of the above

ANSWER THE FOLLOWING IN ONE (OR) TWO SENTENCES

(K2)

- Define Atom Economy with a specific Reaction.
- Differentiate the Bottom up and Top-down approaches.
- Define h-index of Journal.
- Write a note on cryptography.
- What is Sandboxing?

SECTION – B

(5 X 4 = 20 MARKS)

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

11. a) Prepare a report on water as a green solvent.

(OR)

- b) Pen down the uses of microwaves and ultra sonication in green chemistry.

(CONTD .... 2)

12. a) Discuss the fundamental properties of Nano materials.

(OR)

b) Explain the Sol-gel synthesis with an example.

13. a) Classify the Types of Research.

(OR)

b) Briefly explain the importance of research in science.

14. a) Distinguish buffer overflow and heap overflow.

(OR)

b) Discuss the various threats in Cyber Security and explain how to avoid those threads.

15. a) Firewalls are very important in the present digital world. Justify.

(OR)

b) Compare and contrast the Network security and Software security.

**SECTION - C**

**(4 X 10 = 40 MARKS)**

**ANSWER ANY FOUR OUT OF SIX QUESTIONS. (K4 (Or) K5)  
(16<sup>th</sup> QUESTION IS COMPULSORY AND ANSWER ANY THREE  
QUESTIONS (FROM Qn. No : 17 to 21))**

16. Explain the principle, instrumentation and applications of Transmission electron microscopy.

17. Illustrate with examples the twelve principles of Green Chemistry.

18. Demonstrate the principle, instrumentation and applications of scanning electron microscopy.

19. Describe the Art of Scientific Writing and publishing Journals.

20. Outline the importance of Cyber Security in the present Scenario.

21. Explain the procedures adopted for web security and comment on its importance.

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