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**ST. JOSEPH’S UNIVERSITY, BENGALURU -27**

**M.Sc(Computer Science) – I SEMESTER**

**END SEMESTER EXAMINATION: OCTOBER 2023**

**(Examination conducted in November /December 2023)**

**CS 7421: CYBER SECURITY**

**(For current batch students only)**

**Time: 2 Hours Max Marks: 50**

**This paper contains one printed page and three parts.**

**Instruction: Use of simple calculator is allowed**

**PART A**

**Answer all the following questions (2\*5=10)**

1. Mention the security Mechanisms provided by ITU-T.
2. Give the applications of Digital Signature.
3. Define IPS. List its types.
4. State the need for Cyberlaw.
5. Mention any two approaches that are used for email forensics.

**PART B**

**Answer any five of the following questions (4\*5=20)**

1. Generate the Play fair Cipher for the plain Text = MSC COMPUTERS and key =MONARCHY
2. Explain Classical fiestal cipher with a neat diagram.

8. Give an overview of firewalls and their types.

9. Summarize the functionality of S/MIME security at application layer.

10. Illustrate in detail the NIST framework.

11. Explain in detail about IDS and its classification.

12. What is the need for Digital Forensics? Explain in detail.

**PART C**

**Answer any two of the following questions (10\*2=20)**

13. (a) Illustrate the modes of operation of Block Ciphers.

(b) Generate row, column transposition for the plain text “kill corona virus at twelve am

tomorrow” and the key = 4312567. (7+3)

14. Explain in detail about SSL security at network layer.

15. Summarize in detail about:

(a)Classification of Cybercrimes.

(b) Digital Forensics Lifecycle. (5+5)