



## P.E.S. College of Engineering, Mandya - 571 401

(An Autonomous Institution affiliated to VTU, Belagavi)

**First Semester, M. Tech - Computer Science and Engineering (MCSE)**

**Semester End Examination; April / July - 2021**

**Information and Cyber Security**

Time: 3 hrs

Max. Marks: 100

### Course Outcomes

The Students will be able to:

*CO1: Describe information security issues, planning and legal issue, cybercrime, legal perspectives and identify different types of attacks.*

*CO2: Analyze information security challenges, mobile devices and information systems access in the cyber crime world and use tools and methods used in cyber crime.*

*CO3: Describe and Analyze cyber crime and offences. Demonstrate phishing, identity theft and illustrate the challenges faced in punishing the cyber criminals.*

*CO4: Summarize the fundamental concepts in cyber forensics.*

*CO5: Implement tools used for the forensics of hand-held devices and develop data privacy and security best practices essential for organizations.*

**Note: I) Answer any FIVE full questions, selecting ONE full question from each unit.**

**II) Any THREE units will have internal choice and remaining TWO unit questions are compulsory.**

**III) Each unit carries 20 marks. IV) Missing data, if any, may suitably be assumed.**

Q. No.	UNIT - I	Marks	BLs	CO	PO
1a.	Mention and explain the different phases of security system development life cycle.	10	L2	CO1	PO1,3
b.	What is an attack? Explain different categories of attack that damages organizations information.	10	L1,2	CO1	PO3
<b>OR</b>					
1d.	Categorize the components of information system? Explain.	10	L4	CO1	PO2,3
e.	Distinguish Quantitative versus Qualitative risk control practices.	10	L3	CO1	PO3
<b>UNIT - II</b>					
2 a.	Mention and explain three types of security policies according to National Institute of Standards and Technology (NIST).	12	L2,3	CO2	PO3
b.	Discuss design of security architecture. Explain spheres of security with diagram.	8	L2,1	CO2	PO4
<b>OR</b>					
2 d.	What are Firewalls? Explain different processing modes of Firewalls.	10	L1,2	CO2	PO4
e.	Classify Network based and Host based Intrusion Detection and Protection System (IDPS).	10	L4	CO2	PO2

**UNIT - III**

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|------|--|----|------|-----|-----|
| 3 a. | Who are cybercriminals? Mention and explain these categories of cyber criminals. | 10 | L4,2 | CO3 | PO3 |
| b.   | Explain how criminals plan the attacks?  | 10 | L2   | CO3 | PO2 |

**UNIT - IV**

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|------|--|----|----|-----|-------|
| 4 a. | Explain different trends in mobility with its type and differences.              | 10 | L2 | CO4 | PO3,4 |
| b.   | What are the trends in mobile credit card frauds in wireless computing? Explain. | 10 | L1 | CO4 | PO4,7 |

**OR**

- |      |  |    |    |     |     |
|------|--|----|----|-----|-----|
| 4 d. | Discuss proxy services and anonymizer.       | 10 | L2 | CO4 | PO4 |
| e.   | List the differences between virus and worm. | 10 | L3 | CO4 | PO4 |

**UNIT - V**

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|------|---|----|----|-----|-------|
| 5 a. | List the characteristics of computer forensics and explain. | 10 | L4 | CO5 | PO1   |
| b.   | Discuss online social media tool with examples.             | 10 | L2 | CO5 | PO4,6 |

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