Code No: **R194204G** **R19** **Set No. 1**

IV B.Tech II Semester Supplementary Examinations, May/June – 2024

CYBER SECURITY &CRYPTOGRAPHY

(Open Elective for Electronics and Communication Engineering)

Time: 3 hours **Max. Marks: 75**

Answer any FIVE Questions
ONE Question from Each unit
All Questions Carry Equal Marks

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UNIT I

1 a) Discuss the evolution of cybercrime from its inception to the present day. [7]

b) Explain the correlation between cybercrime and information security. How does cybercrime pose challenges to maintaining the confidentiality, integrity, and availability of digital information in various sectors? [8]

(OR)

2 a) Classify cybercrime based on various criteria such as the nature of the offense, the target, and the method of execution. [7]

b) Examine the various attack vectors utilized by cybercriminals to target mobile and cell phones, as well as network and computer systems. [8]

UNIT II

3 a) Explain the role of proxy servers and anonymizers in maintaining anonymity and bypassing restrictions on the internet. [7]

b) Describe the concept of phishing and its prevalence in cybercrime activities. [8]

(OR)

4 a) Explain the concept of steganography and its role in covert communication and data exfiltration. [7]

b) Examine the functionalities of keyloggers and spyware in the context of cyber espionage and unauthorized surveillance. [8]

UNIT III

5 a) Discuss the significance of cybercrime investigation in the modern digital landscape. [7]

b) Explain the concept of eDiscovery and its relevance in cybercrime investigations. [8]

(OR)

6 a) Describe the procedures involved in digital evidence collection during a cybercrime investigation. [7]

b) Explore the techniques and methodologies used in email investigation and tracking. [8]

UNIT IV

7 a) Explain the concept of computer forensics and its significance in modern digital investigations. [7]

b) Discuss the criteria for evaluating computer forensics software and hardware tools, including features, reliability, scalability, and compatibility with different operating systems. [8]

(OR)

8 a) Discuss how biometric authentication methods are used to identify and authenticate individuals in digital environments. [7]

b) Explore the techniques and methodologies used in cell phone and mobile device forensics. [8]

UNIT V

9 a) Examine the provisions of the Indian Information Technology Act and its implications for regulating cyber activities in India. [7]

b) Evaluate the need for legislative reforms to strengthen cyber security measures and enhance legal enforcement mechanisms. [8]

(OR)

10 a) Explain the role of digital signatures in the Indian IT Act and their significance in electronic transactions. [7]

b) Write short notes on recent amendments to the Indian Information Technology Act and their impact on cybercrime regulation. [8]

Code No: **R1642023** **R16** **Set No. 1**

IV B.Tech II Semester Supplementary Examinations, May/June – 2024

ELECTRICAL DISTRIBUTION SYSTEMS

(Electrical and Electronics Engineering)

Time: 3 hours **Max. Marks: 70**

Question paper consists of Part-A and Part-B
Answer ALL sub questions from Part-A
Answer any FOUR questions from Part-B
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PART–A *(14 Marks)*

1. a) Why loads are classified in distribution systems. [2]
   b) What are the types of basic distribution system? [2]
   c) Why is voltage drop consideration important in distribution systems? [3]
   d) Explain in brief the type of common faults that occur in distribution system. [3]
   e) What are the advantages of capacitor compensation? [2]
   f) Define AVB and AVR. [2]

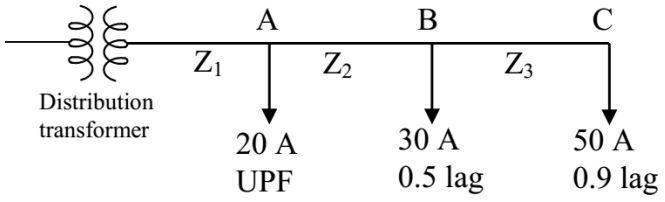
PART–B *(4x14 = 56 Marks)*

2. a) What is meant by load modeling and give their characteristics? [7]
   b) Define the following:
      i) Coincidence factor
      ii) Load factor
      iii) Loss factor
      iv) Contribution factor. [7]

3. a) How do you analyze a substation service area with ‘n’ primary feeders? [7]
   b) What are the types of primary feeders and discuss the merits and demerits of them? [7]

4. a) Discuss importance of voltage drop and power loss calculations in distribution system. [7]

b) Consider a three phase, 3-wire 240 V secondary system with balanced loads at A, B and C as shown in the below figure.
Determine: (i) The voltage drop in one phase of lateral (ii) The real power per phase for each load (iii) The reactive power per phase for each load.



[7]

5. a) Describe the principle of operation of:
i) Line sectionalizer
ii) Circuit recloser. [7]
b) Explain Fuse-Circuit breaker coordination. [7]

6. a) Discuss the need of power factor improvement in distribution system and explain effect of series capacitor. [7]
b) Explain need of fixed capacitor and switched capacitor in distribution systems. [7]

7. a) Write short notes on any two methods of voltage control? [7]
b) Voltage control and p.f. correction are necessary in power systems? Explain. What are the disadvantages of low voltage and low p.f. of the system? [7]

Code No:**R1642053** **R16** **Set No. 1**

IV B.Tech II Semester Supplementary Examinations, May/June – 2024

MACHINE LEARNING

(Computer Science and Engineering)

Time: 3 hours **Max. Marks: 70**

Question paper consists of Part-A and Part-B

Answer ALL sub questions from Part-A

Answer any FOUR questions from Part-B

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PART–A*(14 Marks)*

1.	a)	What are the ingredients of machine learning?	[3]
	b)	What do you mean by Concept Learning?	[3]
	c)	What is meant by Tree Pruning?	[2]
	d)	What is Clustering?	[2]
	e)	Describe categorical data.	[2]
	f)	What is dimensionality reduction?	[2]

PART–B*(4x14 = 56 Marks)*

2.	a)	Differentiate between Supervised, Unsupervised and Reinforcement Learning.	[7]
	b)	Explain the important features that are required to well define a learning problem.	[7]
3.	a)	Differentiate Linear Regression and Logistic Regression.	[7]
	b)	Explain Unsupervised Learning approach.	[7]
4.	a)	Explain classification by Decision tree induction.	[7]
	b)	Write the advantages and disadvantages of pre-pruning in decision trees.	[7]
5.	a)	Discuss the importance of support vectors in SVM classification.	[7]
	b)	Explain the principle of the K-NN algorithm.	[7]
6.	a)	Explain bagging ensemble technique.	[7]
	b)	Discuss the feature transformation techniques.	[7]
7.	a)	Explain the role of weights and biases in an MLP network.	[7]
	b)	Explain Neural network learning.	[7]