

Code No: **R194204G**

R19

Set No. 1

IV B.Tech II Semester Advance Supplementary Examinations, July – 2023

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*

UNIT I

- 1 a) What are the common methods employed by cybercriminals to infiltrate networks and compromise computer systems? [8]
b) Write the characteristics and potential consequences of cyberstalking. [7]
(OR)
- 2 a) Explore the specific types of attacks targeting mobile/cell phones. [7]
b) What is the relationship between cybercrime and information security? How does cybercrime pose a threat to the security of digital information? [8]

UNIT II

- 3 a) How do cybercriminals use phishing attacks to deceive individuals and gain access to sensitive information? [7]
b) Discuss the role of sniffers, spoofing, and session hijacking in cybercrime. [8]
(OR)
- 4 a) Discuss the role of proxy servers and anonymizers in the context of cybercrime [7]
b) How do attackers leverage SQL injection techniques to gain unauthorized access to databases and manipulate data? [8]

UNIT III

- 5 a) Write the challenges and benefits associated with electronic discovery in legal proceedings. [7]
b) Discuss the process of digital evidence collection in forensic investigations. [8]
(OR)
- 6 a) How can investigators ensure the authenticity and admissibility of preserved evidence? [7]
b) Discuss the process of e-mail recovery in digital investigations. [8]



UNIT IV

- 7 a) What are the key considerations and protocols that investigators should follow before initiating a computer forensic examination? [9]
b) Discuss the role of computer forensics software tools in digital investigations. [6]

(OR)

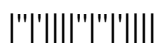
- 8 a) List the advantages and limitations of these biometric technologies in forensic investigations? [7]
b) Discuss the techniques and considerations involved in e-mail investigations in computer forensics. [8]

UNIT V

- 9 a) How does the Indian IT Act define and address cybercrime in India? [7]
b) What are the potential implications of inadequate legal measures to combat cybercrime? [8]

(OR)

- 10 a) What are the significant amendments that have been introduced to enhance the effectiveness of the Act? Discuss. [7]
b) Discuss how does the Indian legal framework address cybercrimes committed by or against students? [8]



Code No: **R194204H**

R19

Set No. 1

IV B.Tech II Semester Advance Supplementary Examinations, July-2023

EMBEDDED SYSTEMS

(Open Elective)

Time: 3 hours

Max. Marks: 75

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

UNIT I

- 1 a) What is an embedded system? Explain the different applications of embedded systems. [7]
- b) Discuss in detail about Response and Security in Operational Quality attributes of embedded systems. [8]
- (OR)
- 2 a) Discuss the Time-to Prototype and Market of an embedded product development. [7]
- b) Discuss the role of Embedded systems in Automotive Domain. [8]

UNIT II

- 3 a) What are the various Analog electronics components used in an Embedded Hardware? Explain any two of them. [7]
- b) What are the various serial communication devices used in an Embedded Hardware? Explain any one of them. [8]
- (OR)
- 4 a) Discuss in detail about ZigBee [7]
- b) What are the limitations and merits of IEEE1394 interface over USB. [8]

UNIT III

- 5 a) Discuss about compiler and cross compiler with respect to Embedded Firmware. [7]
- b) With the help of appropriate diagrams explain the working of DMA. [8]
- (OR)
- 6 a) Define Interrupt? What are the limitations of interrupt mechanism. [7]
- b) What is Device Driver? What is role of Device Driver programming in embedded system with example. [8]



UNIT IV

- 7 a) Explain the different multitasking models in operating system context [7]
b) Differentiate between Hardware and Software Co-Design with all the salient features of the [8]

(OR)

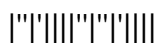
- 8 a) What is kernel space and user space? How is kernel space and user space interfaced? [7]
b) Three processes with process IDs P1, P2, P3 with estimated completion time 12, 10, 2 milliseconds respectively enter the ready queue together in the order P2, P3, P1. Process P4 with estimated execution completion time 4 milliseconds enters the Ready queue after 8 milliseconds. Calculate the waiting time and Turn Around Time (TAT) for each process and the average waiting time and Turn Around Time (Assuming there is no I/O waiting for the processes) in the FIFO Scheduling. [8]

UNIT V

- 9 a) Write short notes on quality assurance and testing of the embedded system design. [7]
b) Explain in detail about below terms: [8]
i) Debugging
ii) Simulator

(OR)

- 10 a) Explain about Laboratory instruments for testing the embedded system. [7]
b) Explain the important features of compilers and linkers that are relevant to embedded system? [8]



IV B.Tech II Semester Advance Supplementary Examinations, July-2023**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*

PART-A(14 Marks)

1. a) What is Load Factor, explain its importance? [2]
- b) Define Outdoor Substations and its advantages over Indoor? [2]
- c) Differentiate the operation between 2 wire and 3 wire DC Distribution systems? [3]
- d) Write the objectives of Distribution Protection in detail? [3]
- e) Explain about Series Capacitor compensation in feeder system? [2]
- f) Define Line drop compensator in Feeder network? [2]

PART-B(4x14 = 56 Marks)

2. a) Classify the types of loads and determine its characteristics neatly with drawings? [7]
- b) Determine the Average loss factor at Urban Area and Rural Area. If the average load factor of Substation is 0.73. [7]
3. a) Derive percentage of voltage drop of the feeder with Square type service area and Hexagonal type service area? [7]
- b) What is Reliability? Explain how to choose primary and secondary feeder arrangement on Reliability bases? [7]
4. a) Compare and explain the Voltage drop and Power loss in non-Three phase Distribution system and Three phase balanced system with neat derivation? [7]
- b) Explain manual method of solution for Radial network in detail derivation step by step process? [7]
5. a) Explain in detail about Residual current in Circuit Breakers? [7]
- b) A 3 phase, 4 wire system having its voltage of 10.39KV, if the system is supplied by 3 phase alternator having Zero, Positive and Negative sequence reactance as 0.25, 0.65 and 0.45 ohm/ phase respectively. Find the magnitude of Fault current for a L-L fault? [7]
6. a) Explain the Economic justification of Power Factor correction? [7]
- b) A1 phase motor connected to a 220V, 50Hz supply takes 20A at 0.75PF lagging. Determine the capacitor value shunted across the motor terminals to improve the Power Factor to 0.9 lagging? [7]
7. a) Explain AVB can control voltage and its function with neat diagram? [7]
- b) Determine the effect of Series Capacitor on Voltage control with neat diagram and necessary equations? [7]

