



# INSTITUTE OF AERONAUTICAL ENGINEERING

(Autonomous)

Dundigal-500043, Hyderabad

B.Tech V SEMESTER END EXAMINATIONS (REGULAR/ SUPPLEMENTARY) - FEBRUARY 2024

Regulation: UG20

NETWORK PROGRAMMING AND MANAGEMENT

Time: 3 Hours

CSE(CYBER SECURITY)

Max Marks: 70

Answer ALL questions in Module I and II

Answer ONE out of two questions in Modules III, IV and V

All Questions Carry Equal Marks

All parts of the question must be answered in one place only

## MODULE – I

1. (a) Mention the data types used in client-server programs. Discuss the syntactical issues of various address conversion functions. [BL: Understand| CO: 1|Marks: 7]
- (b) Discuss in detail about TCP/IP protocols for internet working and management. Write a program to print the process ID of parent and child. [BL: Apply| CO: 1|Marks: 7]

## MODULE – II

2. (a) Elucidate the significance of interrupted system calls in application protocol and handling the interrupted system calls. [BL: Understand| CO: 2|Marks: 7]
- (b) Summarize the following concept with suitable examples
  - i) Shutdown function
  - ii) Server host crashes
  - iii) Input output models
  - iv) POSIX signal [BL: Understand| CO: 2|Marks: 7]

## MODULE – III

3. (a) Demonstrate the method to find out if the given option is supported and if so to print the default value. [BL: Understand| CO: 3|Marks: 7]
- (b) Mention the four steps used in client processing loop. Differentiate between server function dg\_echo and client function dg\_cli. [BL: Understand| CO: 3|Marks: 7]
4. (a) List out the options that are used to pass a value of the specified datatype between user process and the system. [BL: Understand| CO: 4|Marks: 7]
- (b) Develop a program that checks all the socket option of a socket and sets the value for receiver buffer size to 520 bytes. [BL: Apply| CO: 4|Marks: 7]

## MODULE – IV

5. (a) Outline the steps that allow an IPv4 TCP client to communicate with an IPv6 server. [BL: Understand| CO: 5|Marks: 7]
- (b) Determine the concept of raw socket input and define the three tests, when kernel has to pass IP datagram. [BL: Apply| CO: 5|Marks: 7].

6. (a) What are the basic functions of thread creation and termination? List out the unique values maintained by a thread. [BL: Understand| CO: 5|Marks: 7]
- (b) Write a program that uses threads and raw sockets for checking the connectivity of a remote machine. [BL: Apply| CO: 5|Marks: 7]

### MODULE – V

7. (a) Identify the process of management stations that sends queries concerning a device to its proxy agent. [BL: Understand| CO: 6|Marks: 7]
- (b) Summarize the implementation of MIB II object grouping. Draw the diagram that depicts the configuration using RMON. [BL: Understand| CO: 6|Marks: 7]
8. (a) Mention the various services of SNMP. Explain in detail about the SNMP components. [BL: Understand| CO: 6|Marks: 7]
- (b) Illustrate the architecture of SNMP entity and traditional SNMP manager, as specified in RFC2271. [BL: Understand| CO: 6|Marks: 7]

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