

Code No: 156CA

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD****B. Tech III Year II Semester Examinations, August/September - 2024****NETWORK PROGRAMMING****(Computer Science and Engineering - Networks)****Time: 3 Hours****Max. Marks: 75**

- Note:** i) Question paper consists of Part A, Part B.  
ii) Part A is compulsory, which carries 25 marks. In Part A, Answer all questions.  
iii) In Part B, Answer any one question from each unit. Each question carries 10 marks and may have a, b as sub questions.

**PART – A****(25 Marks)**

- 1.a) Explain the use of `exec()` function. [2]
- b) What is 3-way handshake TCP connection establishment? [3]
- c) What is the use of `shutdown()` function? [2]
- d) Distinguish between Block I/O and Non block I/O. [3]
- e) List out the socket states. [2]
- f) What is the syntax and need of `recv()` function? [3]
- g) Explain how daemon process different from normal process. [2]
- h) What is a race condition? [3]
- i) Explain about Terminal line Disciplines. [2]
- j) What is the significance of Trace route program? [3]

**PART – B****(50 Marks)**

- 2.a) List and explain various byte manipulation functions with clear syntax.
  - b) Explain about Buffer sizes and limitations of TCP and UDP protocols. [5+5]
- OR**
3. Describe any 5 TCP Socket elementary functions. [10]
- 4.a) Compare and Contrast between Synchronous and Asynchronous I/O models.
  - b) Distinguish between `select()` function and `poll()` function. [5+5]
- OR**
- 5.a) Explain Crashing and Rebooting of server host shutdown of server host.
  - b) Discuss in detail about UDP Echo server function. [5+5]
- 6.a) Explain in detail about TCP Socket options.
  - b) Explain the following functions:
    - i) `recv()`
    - ii) `writv()`. [5+5]
- OR**
- 7.a) Discuss in detail about `getsockopt()` and `setsockopt()` functions.
  - b) Explain the following functions with an example:
    - i) `recvmsg()`
    - ii) `sendmsg()`. [5+5]

- 8.a) Explain the following:  
i) Syslog Function    ii) inetd Daemon  
b) Discuss about dg\_cli Function Using Multicasting. [5+5]

**OR**

- 9.a) Write a program that creates a daemon process using the daemon\_init() function.  
b) Explain in detail about DNS. [5+5]

- 10.a) Discuss in detail about Control Terminals and Terminal Modes.  
b) What is the rlogin program and how does it provide remote login capabilities. [5+5]

**OR**

- 11.a) Summarize the functions used in ping program.  
b) Discuss about Packet Capture Library. [5+5]

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paper Aug-2024