

Code No: 156CA

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech III Year II Semester Examinations, February - 2023

NETWORK PROGRAMMING

(Common to CSE, IT)

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) Define concurrent server. [2]
- b) Write a program to determine the host byte order. [3]
- c) Write a function of shutdown of a server host. [2]
- d) What is the need of I/O model? [3]
- e) What is the use of Ancillary Data? [2]
- f) What is the syntax of setsockopt()? [3]
- g) What is uname() function? [2]
- h) Differentiate between unicast and multicast addressing. [3]
- i) What is the significance of ping program? [2]
- j) How are pseudo terminals different from control terminals? [3]

PART – B**(50 Marks)**

2. Describe the any 5 elementary TCP socket functions. [10]
- OR**
- 3.a) Describe the four way handshaking mechanism in TCP connection establishment.
 - b) Explain about the standard internet services. [5+5]
4. Differentiate between synchronous and asynchronous I/O models. [10]
- OR**
5. Explain about the shutdown function and poll function. [10]
 6. Explain IPV6 and ICMPV6 socket options in detail. [10]
- OR**
- 7.a) What are the different socket states in a network communication?
 - b) How to modify the socket's behavior in response to error conditions? [5+5]
- 8.a) Write a program that creates a daemon process using the daemon_init() function, which logs messages using the syslog() function and the syslogd daemon.
 - b) Explain about the Multicast Socket Options. [5+5]

OR

- 9.a) How does the Simple Network Time Protocol (SNTP) is used in multicasting for time synchronization of a network?
- b) What is a daemon process and how does it differ from a normal process in a Unix operating system? What mechanism does DNS employ to efficiently return the IP address for the given domain name. [5+5]
- 10.a) What are terminal modes and control terminals, and how can they be set and manipulated in a program to control the behavior of a terminal and interact with processes running in the foreground and background of the program.
- b) What is the rlogin program and how does it provide remote login capabilities, allowing a user to log into a remote machine and interact with its shell as if they were directly connected to the machine. [5+5]
- OR**
- 11.a) What are the benefits of using a packet capture library when working with network packets, and how does it provide an easy and efficient way to analyze and manipulate network traffic?
- b) What is the purpose of the traceroute program and how does it work to determine the route taken by packets from a source to destination in a network. [5+5]

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