

Code No: 156CA

R18

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech III Year II Semester Examinations, February/March - 2022

NETWORK PROGRAMMING

(Common to CSE, IT)

Time: 3 Hours

Max. Marks: 75

**Answer any five questions
All questions carry equal marks**

- 1.a) Explain the services and functions of various layers in the OSI reference model.
b) Describe various internet address conversion functions with neat syntax. [8+7]
2. How are TCP connections established and terminated? Explain the steps and various options using a neat TCP's state transition diagram. [15]
3. What will happen if the server child process is killed? Describe about the crashing of the server process and the crashing of the server host. [15]
- 4.a) Describe briefly about Blocking and Non-Blocking I/O models with neat diagrams.
b) Give the syntax of poll() function and describe its basic functionality. [9+6]
- 5.a) Give the detail syntax of recv() and send() functions and explain its functionality also mention various flags for I/O functions associated with these functions.
b) Give the basic functionality of ioctl() function. [9+6]
6. Explain the following functions with an illustrative example code:
a) getservbyname() b) getservbyport() [8+7]
- 7.a) What are the six macros that operate on the icmp6_filter structure? Explain them briefly.
b) How to calculate the internet checksum? Discuss the algorithm in detail. [8+7]
8. Give an overview of the functions used in a ping program that works for both IPv4 and IPv6 with a neat flowchart and an illustrative program. [15]

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