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Name.....

Reg. No.....

**THIRD SEMESTER M.Sc. (COMPUTER SCIENCE) DEGREE EXAMINATION
FEBRUARY 2008**

CS 303—NETWORK PROGRAMMING AND ADMINISTRATION

(2005 admission onwards)

Time : Three Hours

Maximum : 80 Marks

Part A

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

1. Explain network file system.
2. (a) Socket allow an application to "plug in" to the network and communicate with other application.
How ?
(b) Raw sockets are beneficial over stream and datagram sockets. Why ?
3. How addressing are used in **internet** class structure ? Explain the IP packet structure.
4. Explain the connection established and communication between a **TFTP** client and server. Also discuss error control in **TFTP**.
5. Explain how a **diskless** workstation is booted up ?
6. Compare and contrast message queues and shared memory.
7. Design client server program using FIFO to open a file and display the content on the terminal with comment lines eliminated. Client receives the filename from the terminal, passes to the server. Server opens the file, does the necessary processing, send the contents to the client. Client displays them on the terminal.

(5 x 8 = 40 marks)

Part B

*Answer any **four** questions.
All questions carry equal marks.*

8. What are the activities involved in domain name servicing.
9. (a) Explain Semaphores.
(b) Explain how connection establishment is done in **TCP**.
10. A client and server can both run on the same computer and use a **TCP socket** to communicate. Explain how it is possible to build a client and server that can communicate on a single machine without learning the host's IP address.
11. (a) What is a Remote Procedure Call ?
(b) Why should each name server know the IP address of its parent instead of the domain name of its parent.

Turn over

12. (a) What are 'named pipes' ? How they are created ? What is their advantage over pipes ?
- (b) Which is the byte order chosen by TCP/IP protocol suit ? What are the byte order transformation function ?
- (c) Which feature of Unix controls the redirection of data to or from a file to other programs. What are the system calls to create them .

5)

13. Write short notes on ;

(4 + 2 + 4 = 10 marks)

11

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(i) **SNMP** ; (ii) Streams ; (iii) Message Queue.

(4 x 10 = 40 marks)

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