BACHELOR IN COMPUTER APPLICATIONS

Term-End ExaminationICDecember, 2011ICCS-69 : TCP/IP PROGRAMMING

Time : 2 hours

Maximum Marks : 60

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Note: Question number one is compulsory. Answer any three questions from the rest.

- (a) What are the reserved bit patterns of the first 2 bytes for class C and class E respectively ?
 - (b) In a class C subnet the IP address of one of 2 the hosts and the marks are as given below :

IP address : 220.34.76.16

Marks : 255.255.255.192

- (c) What is subnet addressing ? Also list and explain all the control flags of TCP header that control certain aspects of TCP connection and flow control.
- (d) Write a client and a server program in C-language to establish a TCP connection between a client and a server program.
 Once a connection is established the client

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program sends a string in a lowercase to the server. The server program converts the string in a upper case and send the result to the client. Also, explain the logic of the program.

(e) Write the *Syntax* and purpose of the following unit commands :

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- (i) gz_1p (ii) Diskforce [df]
- (iii) Chmod (iv) cat (v) grep
- (f) Sketch the different scenario of how computers are connected together in a LAN.
- 2. Differentiate between the followings :
 - (a) recv () and recvfrom () system calls.
 - (b) Class A and class B address
 - (c) Bridge and router
 - (d) Virtual circuit and diagram.
- (a) Illustrate how is a mail transferred from one e-mail account aaa @ xxx.ac.in to bbb @ yyy.ac.in. Also explain some features of SMTP protocol.

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- (b) Write the Syntax and meaning of functions which convert from the network format to the host format.
- Explain the purpose and importance of the 10 following IP and TCP header fields.
 - (a) TTL
 - (b) Fragment offset
 - (c) Option
 - (d) Window size
 - (e) RST and FIN flags
- 5. (a) Explain the meaning of following terms, 6 and use in network communication.
 - (i) Datagram Socket
 - (ii) Raw Socket
 - (b) Explain the working of Telnet protocol.

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