

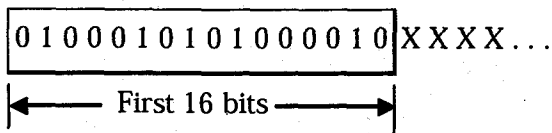
BACHELOR IN COMPUTER APPLICATIONS**Term-End Examination****December, 2008****CS-69 : TCP/IP PROGRAMMING***Time : 2 hours**Maximum Marks : 60*

Note : Question number 1 is compulsory. Answer any two questions from the rest.

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1. (a) Which fields in IP datagram header are used to identify a datagram in the Internet uniquely ? 2
 - (b) What are the situations in which host needs to know its protocol address (e.g. IP address) through its physical address ? 4
 - (c) What are the different query messages in ICMP for network monitoring and management ? 4
 - (d) Which field in IP header is used for Congestion Control and how ? 4
 - (e) What are the purpose of following IP addresses ? 4
 - (i) 0.0.0.0
 - (ii) 255.255.255.255

- (f) How multiplexing is handled by TCP ? Explain. 4
- (g) Why TCP is called reliable and UDP unreliable ? What factors make TCP reliable ? 4
- (h) Explain the mechanism of opening active and passive control connection in FTP between the client and the server. 4
2. (a) Explain the process of three way handshake method in TCP Connection establishment. Also, write how is it different from two way handshake method. 7
- (b) Explain the concept of IP subnet addressing and masking with the help of an example for each. 5
- (c) Identify the class of following IP addresses : 3
- (i) 130.120.180.200
 - (ii) 195.205.19.75
 - (iii) 204.110.50.20
3. (a) How are ARP and RARP similar to each other ? Explain the advantage of ARP caching. Also, explain the purpose of 'hardware type' and 'protocol length' fields in ARP packet. 8
- (b) What is meant by flow control ? Explain the mechanisms used by TCP for Congestion Control and Flow Control. 7

4. (a) An IP datagram has arrived with the following first 16 bits of information in the header (in binary) as given below : 6



Answer the following :

- (i) What is the size of header ?
 - (ii) Are there any option ?
 - (iii) What is the precedence of Datagram ?
 - (iv) What type of service, this datagram contains ?
- (b) In electronic mail, what is MIME ? Explain its purpose and functionality. 4
- (c) Explain the purpose of various fields used in DNS message format. 5
5. (a) Explain the importance of the following header fields in UDP and TCP. 6
- (i) Window size
 - (ii) Total packet length
 - (iii) Urgent pointer

- (b) Write any two differences between each of the following pairs : 8
- (i) FTP and Telnet
 - (ii) Static and Dynamic Routing
 - (iii) TCP/IP and OSI Model
 - (iv) Multicasting and Broadcasting
- (c) Which class of IP address provide multicasting ? 1

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