

05502

BACHELOR IN COMPUTER APPLICATIONS

Term-End Examination

June, 2010

CS-69 : TCP/IP PROGRAMMING

Time : 2 hours

Maximum Marks : 60

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

1. (a) Answer the following questions.
 - (i) How is logical address different from physical address ? 3
 - (ii) What is the address space of IPVU ? 1
 - (iii) Why is fragmentation of IP datagram needed ? 2
 - (iv) How can we distinguish multicast address in IPVU addressing ? 2
 - (v) If the length of TCP header is 60, what is the value of Header length field ? 2
- (b) What kinds of segments are used in connection establishment and termination using 3-way handhaking in TCP ? Explain through suitable diagram. 5

- (c) Change the following IPVU addresses from binary notation to dotted-decimal notation and state which class they belong to : **4**
- (i) 10000001 00001011 00001011
11101111
- (ii) 11000001 10000011 00011011
11111111
- (d) What is the purpose of TCP's sliding window protocol ? How it is different from sliding window protocol used at data link layer ? **5**
- (e) What are the tasks performed by Ethernet, when it receives an IP datagram ? Is there any relation between the Ethernet address and the Internet address ? **5+1**

2. Answer the following questions :

- (a) Why do we need a DNS system, when we can directly use an IP address ? **2**
- (b) List three important characteristics of DNS and explain them. **3+2**
- (c) How does TCP handle timeout and retransmission ? **3**
- (d) What is the difference between the delivery of a frame in the datalink layer and the delivery of a packet in the network layer. **5**

3. (a) Explain the purpose and importance of the following header fields of IP and TCP : 10
- (i) Window
 - (ii) Destination port
 - (iii) Fragment offset
 - (iv) Protocol
 - (v) Total length
- (b) What is the difference between connectionless and connection oriented service ? Which type of service is provided by Internet layer. 5
4. (a) Explain the following terms : 10
- (i) "Time to live" field of IP
 - (ii) Gateway
 - (iii) Fragment
 - (iv) Broadcast and multicast
 - (v) Subnetting
- (b) Draw the IP address class formats and explain. 5
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