May 2007 BE sem VII E&TC
Subject (ECE) Internet Communication Engg.

Con. 3096-06. **(REVISED COURSE)** **TV - 8919**

(3 Hours) **[Total Marks : 100**

N. B. : (1) Question No. **one** is **compulsory**.
(2) Answer any **four** out of the remaining **six** questions.

1. (a) Why is the transport layer not present in the network ? 2
(b) Why is header checkrum requied in TCP ? 3
(c) Which transport protocol is used for real–time communication and why ? 3
(d) Why does IPv6 allow fragmentation at the source only ? 3
(e) Where is complexity concentrated in a connection oriented network ? Where is it concentrated in a connectionless network ? 3
(f) What is the difference between a physical address, a network address and a domain name. 3
(g) Explain why is it useful for application layer programs to have "well-known" TCP port number ? 3

2. (a) Explain the use of the following IP utilities. 10
(i) PING (ii) Traceroute (iii) ipconfig (iv) netstat
Also discuss the use of Telnet with standard TCP/IP services.
(b) How Domain Name System maintains Resource Record in server databases. Explain the format of RR. 10

3. (a) How is Flow control achieved in transport layer ? 10
(b) What is Exterior Gateway routing protocol ? Explain one Exterior Gateway routing protocol. 10

4. (a) What is Fire wall ? Explain packet filtering and application layer firewall. 10
(b) Explain how the use of hierarchy enhances scalability in the following aspects of Internet. 10
(i) Domain name system (ii) IP addressing (iii) OSPF routing (iv) Interdomain routing.

5. (a) A University has 150 LANs with 100 hosts in each LAN. 10
(i) Suppose the University has one class B address. Design an appropriate subnet addressing scheme.
(ii) Design an appropriate CIDR addressing scheme.
(b) A TCP connection goes through a series of states during its lifetime. Explain with the help of state transition diagram. Explain clearly how client moves from SYN–SENT to SYN–RECVD state. What is the significance of TIME-WAIT state ? 10

6. (a) Identify elements where OSPF and BGP are similar and elements where they differ. Explain the reasons for similarity and difference. 10
(b) Compare Distance Vector and Distance Vector Multicast algorithm. What is Mbone and how does IGMP protocol works. 10

7. (a) Compare H.323 and SIP. 10
(b) Explain RTP and RTCP in detail. 10

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