

**Advanced Internet Technology  
(IT-302, Dec-2007)**

**Note:** Section A is compulsory. Attempt any four questions from Section-B and any two from Section-C.

**Section-A**

1. a) Why do we need a DNS system when we can directly use an IP address?
- b) Give an example of point to point protocol.
- c) What is the purpose of 127.0.0.0 IP address?
- d) When ARP packet is used?
- e) What is ping? Is it a ICMP Protocol?
- f) What is socket address?
- g) Why in IP datagram we have checksum only for header not for entire data?
- h) What is the port no. for SMTP protocol?
- i) Give the full form of IANA.
- j) Which transport layer protocol is used when we want connectionless service?

**Section-B**

2. Why ARP request contains the address of requester also? Explain.
3. Does ICMP communicate only with the original source or within intermediate router also? Explain.
4. An IP packet has arrived with a M bit value of 1 and a fragment offset value of 0. Is this the first fragment, last fragment or a middle fragment? Explain.
5. Find the class of following IP address:
  - (a) 14.23.120.8
  - (b) 252.5.15.111
  - (c) 11000001 10000011 00011011 11111111
6. Why TCP is called stream oriented protocol? Explain.

**Section-C**

7. Discuss in detail the header of TCP header. Explain all the fields in detail.
8. (a) Find the number of sub networks that is possible in the following case:
  - (i) Subnet mask 255.255.255.0 and having class B address.
  - (ii) Subnet mask 255.255.192.0 and having class A address.
- (b) Explain the functioning of File transfer Protocol.
9. (a) A IP packet is arrived in which the offset value is 100, the value of HLEN is 5 and the value of the total length field is 100. What are the numbers of the first byte and the last byte?
- (b) Explain the functioning of Telenet protocol.

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