



Name : .....

Roll No. : .....

Invigilator's Signature : .....

**CS/M.Tech(CSE)/SEM-1/PGCS-103/2009-10  
2009**

**COMPUTER NETWORK AND DISTRIBUTED  
SYSTEMS**

Time Allotted : 3 Hours

Full Marks : 70

*The figures in the margin indicate full marks.*

*Candidates are required to give their answers in their own words  
as far as practicable.*

Answer any *five* questions.

5 × 14 = 70

1. a) What are proxy ARP and gratuitous ARP ? 6  
b) State the roles of
  - i) TTL
  - ii) header length
  - iii) options
  - iv) flagsin IP datagram format. 8
2. a) Describe clearly the steps how a mobile host, when it has moved to a foreign network can receive the packet from an external client. 10  
b) What is triangle routing problem ? 4



3. a) Describe how shared trees are constructed in PIM-SM. Also describe the steps when a source host wants to send multicast packets for group G. 10
- b) State the difference between ARP and RARP protocols ? 2
- c) Give an example where RARP is used. 2
4. a) Describe the Kerberos protocol. 10
- b) Describe the usefulness of digital certificate in solving the problem of public key distribution. 4
5. a) What are the different types of firewall ? 8
- b) State the RSA key generation, encryption and decryption algorithms. 6
6. a) Differentiate between well-known ports, registered ports and ephemeral ports. 3
- b) What are the three aspects of network security ? 3
- c) Describe different types of security attacks. 8
7. a) What is "fate sharing" ? 3
- b) Describe the disadvantages of link-state multicasting. 3
- c) What is intranet and extranet ? 3
- d) Describe Virtual Private Network. 5