2009

Roll No. .....

Subject Code—672-X

M.C.A. (Third Year) EXAMINATION

(5 Years Integrated Course)

(Re-appear)

MCA-301

COMPUTER NETWORKS

Time : 3 *Hours* *Maximum Marks :* 100

Note : Attempt any *Five* questions. All questions carry equal marks.

1. What are the different transmission technologies used in computer networks for communicating data ? Describe the types of networks that support these technologies and also sketch the topologies related to them.

2. Sketch the layers of OSI and TCP/IP reference models and make a distinction between the two specifying distinctly the functions of each of the layers in both the models.

3. Specify the characteristics of various wireless transmission medias suitable for data communication along with their applications. How does data transmission take place through optical fibers ?

4. (a) Explain the polynomial code method for detecting errors in transmission.

   (b) Compare go back n and selective repeat sliding window protocols with diagrams.

5. Compare CSMA media access control mechanism with Aloha and slotted Aloha. What is the advantage of collision free protocols ? Give one example of a collision free protocol.

6. Describe the physical specifications, encoding and frame format of IEEE 802·3 and 802·4 LAN standards. How do these two differ in terms of media access control ?

7. (a) Explain the distributed routing algorithm used in the Internet where flooding is used to move control packets.

   (b) Explain one algorithm for controlling congestions based on open loop policy.

8. Answer the following questions in brief :

   (a) How are connections managed in the transport layer ?

   (b) What is the purpose of DNS service in the Internet ?

   (c) How is data encrypted using private/secret keys ?