ED – 770

V Semester B.E. (CSE/ISE) Degree Examination, December 2014/January 2015
(2K11 Scheme)
CI 53 : COMPUTER NETWORKS – I

Time : 3 Hours Max. Marks : 100

***Instruction** : Answer **any five** questions selecting atleast **2** from **each** Part.*

PART – A

1. a) Discuss need of layered architecture in computer communications. **6**

   b) With a neat diagram explain TCP/IP protocol stack. **8**

   c) Discuss transmission impairments. **6**

2. a) Explain methods used to convert digital data to analog signal. **6**

   b) What is multiplexing ? Explain time division multiplexing and frequency division multiplexing. **8**

   c) What is spread spectrum ? Explain frequency Hop spread spectrum. **6**

3. a) With a neat diagram explain twisted pair cable and coaxial cable. **8**

   b) Given message 11010111 and given $G(e) = x^3 + x^2 + 1$. Use CRC method to perform error detection/correction. **8**

   c) Write a note on microwaves. **4**

4. a) Explain point-to-point protocol. **6**

   b) Derive mathematic equation for pure ALOHA, Slotted ALOHA. Discuss why Slotted ALOHA is better than pure ALOHA. **8**

   c) With a neat flowchart, explain CSMA/CD Algorithm. **6**

PART – B

5. a) With frame structure explain frame format of standard ethernet. **8**

   b) Explain non-persistent, p-persistent and 1-persistent protocol with a neat diagram. **6**

   c) Compare fast ethernet and gigabit ethernet. **6**

P.T.O.

6. a) With a neat frame format of 802.15. Explain each fields of frame. **8**

   b) With a neat frame format of 802.11. Explain each fields of frame. **8**

   c) Write note on bridge and router. **4**

7. a) Explain steps involved in making mobile call to another mobile user from one mobile user. **8**

   b) Explain wavelength division multiplexing. Discuss drawback of wavelength division multiplexing. **6**

   c) Give comparison between 2G and 3G. **6**

8. a) Explain different topologies of network. **8**

   b) Explain characteristic of Routing Algorithm. Explain different categories of Routing Algorithm. **6**

   c) Given network topology of network. Use dijkstra routing algorithm to determine path from source A to all other. **6**