FACULTY OF INFORMATICS
B.E. 3/4 (IT) II – Semester (Supplementary) Examination, January 2015

Subject: Computer Networks

Time: 3 hours
Max. Marks: 75

Note: Answer all questions from Part-A. Answer any FIVE questions from Part-B.

PART – A (25 Marks)

1. What is the principal difference between connectionless and connection-oriented communication?

2. List the two ways in which the OSI reference model and TCP/IP reference models are different.

3. Draw the pseudoheader format.

4. A class B network on the internet has a subnet mask of 255.255.240.0 what is the max no. of hosts per subnet? Explain.

5. Mention the differences between these system calls send, sendto and recv, recvfrom.

6. What is meant by out band date?

7. Give two reasons for why PGP compresses message.

8. Explain about RFC822 message header.

9. What is cryptography?

10. List the cipher modes. Explain any one.

PART – B (50 Marks)

11. a) Compute a multicast spanning tree for router ‘C’ in the subnet below for a group with members at routers A, B, C, D, E, F, I & K

   b) What is the difference between OSI and TCP/IP model.

12. a) Explain about BGP.

   b) Classify IP addresses and explain.
13 a) Explain about connection-less communication with block diagram using elementary system calls.  
     b) Explain about IPV4 and IPV6 interoperability.  
14 a) Explain about MIME types and subtypes defined in RFC 1521.  
     b) Draw the format of a PGP message.  
15 a) Explain about RSA algorithm.  
     b) Differentiate between public key and private key algorithms.  
16 a) Explain about TCP segment header.  
     b) Explain about any two congestion control algorithms.  
17 Write a short notes on the following:  
     a) Authentication protocols  
     b) Digital signature  
     c) Voice over IP