

Roll No.

BCA-501

**B. C. A. (Fifth Semester)
EXAMINATION, Dec., 2012**

Paper First

INTRODUCTION TO NETWORKS

Time : Three Hours]

[Maximum Marks : 75

Note : Section A is compulsory. Attempt any *seven* questions out of ten from Section B and *one* question from Section C.

Section – A

(Numerical/Analytical/Problematic Questions)

1. Fill in the blanks : 1 each
- (i) A digital signal is a composite analog signal with an bandwidth.
 - (ii) The presentation layer is responsible for translation, and
 - (iii) is the set of techniques that allows the simultaneous transmission of multiple signals across a single data link.
 - (iv) are devices that connect two or more networks.

- (v) Error control in the data link layer is based upon the principle of of the missing, lost or damage frames.
- (vi) is the concept of sending extra bits for use in error detection.
2. (a) The bandwidth of a channel is 4 MHz and its signal to noise ratio is 75. Determine the appropriate bit rate and signal level. 3
- (b) Generate the CRC code for the data word of 1111000011 and $G(x) = x^5 + x^3 + 1$. 3
- (c) Write the differences between OSI and TCP/IP model. 3
- (d) Explain the differences between broadcast and point to point networks with examples. 3

Section – B

6 each

(Short Answer Type Questions)

3. Define character stuffing and bit stuffing framing method with diagram.
4. Explain stop and wait flow control method for normal operation, time out and retransmission.
5. Explain shortest path routing algorithm with examples.
6. Write the comparison of UDP and TCP.
7. Explain Encryption and Decryption techniques with diagram.
8. Explain design issues of Presentation Layer.
9. Explain DNS with examples.

10. Explain various issues of network security.
11. What is Multiplexing ? Explain frequency division multiplexing (FDM).
12. Differentiate between ASK, PSK and FSK modulation techniques.

Section – C

15 each

(Long Answer Type Questions)

13. Write short notes on the following :
 - (i) Electronic mail
 - (ii) Connection oriented and Connectionless services
 - (iii) Bridge
 - (iv) Transmission mode
 - (v) TCP/IP model
14. Explain performance comparison of Twisted Pair, Co-axial and Optical Fiber cables.