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Seat No.	
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S.E. (Information Technology) (II Sem.) EXAMINATION, 2014

FOUNDATION OF COMPUTER NETWORKS

(2012 PATTERN)

Time : Two Hours

Maximum Marks : 50

N.B. :— (i) Answer question Nos. 1 or 2, 3 or 4, 5 or 6, 7 or 8.

(ii) Neat diagrams must be drawn wherever necessary.

(iii) Figures to the right indicate full marks.

(iv) Use of calculator is allowed.

(v) Assume suitable data, if necessary.

1. (a) Explain the various transmission impairments in data communication. [6]

(b) List the Line Coding schemes in digital transmission. Explain Polar NRZ and Unipolar NRZ schemes. [6]

P.T.O.

Or

- 2.** (a) Define spread spectrum. Explain FHSS and DSSS. [6]
- (b) State and explain the Nyquist theorem and Shannon capacity and solve the following example :

Example : Calculate the maximum bit rate for noiseless channel with a bandwidth of 3000 Hz transmitting a signal with two signal levels. [6]

- 3.** (a) What is circuit switching ? Explain circuit switching in detail with its advantages and disadvantages. [6]
- (b) Explain TCP/IP protocol suite. [7]

Or

- 4.** (a) Explain ISO/OSI model in detail [8]
- (b) Write a short note on Fiber optic cable. [5]
- 5.** (a) What is Hamming distance ? Explain it with an example. Explain simple parity check code. [7]
- (b) Explain Error Detection and Correction in Block Coding. [6]

Or

- 6.** (a) What is CRC ? Explain CRC generator and CRC checker with suitable example. [6]
- (b) What is Checksum ? Describe in detail internet Checksum method with suitable example. [7]
- 7.** (a) Explain FDMA, TDMA and CDMA in detail. [6]
- (b) What is HDLC ? Explain with the help of its frame format. Describe all fields in detail. [6]

Or

- 8.** (a) Explain CSMA and CSMA/CD in detail. [6]
- (b) Differentiate : 10Base2, 10Base5 and 10BaseT specification. [6]