

# CBCS SCHEME

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15CS46

## Fourth Semester B.E. Degree Examination, June/July 2018

### Data Communication

Time: 3 hrs.

Max. Marks: 80

**Note: Answer any FIVE full questions, choosing one full question from each module.**

#### Module-1

- 1 a. Define Data Communication. Explain any two fundamental characteristics of Data communication and basic network topology. (08 Marks)
- b. List out the causes of transmission impairment. Explain the characteristics of analog and digital signals. (08 Marks)

OR

- 2 a. List out the network criteria. Explain TCP/IP protocol suite with neat diagram. (08 Marks)
- b. Define Line coding and list out its characteristics. Represent the following sequence 1011001011 using polar and bipolar scheme. (08 Marks)

#### Module-2

- 3 a. List out the types of transmission modes. Explain the steps of pulse code modulation process, with an example. (08 Marks)
- b. Explain FSK and QAM modulation process, with suitable example. (08 Marks)

OR

- 4 a. Define Multiplexing. Explain synchronous TDM with data rate management and its limitations. (10 Marks)
- b. List out three phases of circuit – switched network. Explain Data gram – switched network. (06 Marks)

#### Module-3

- 5 a. Define Cyclic code. Find the codeword using CRC for given data word 1001 and divisor 1011. (08 Marks)
- b. Define Frames. Explain the steps of flow control at data link layer with diagram. (08 Marks)

OR

- 6 a. Explain Stop – and – Wait protocol with neat diagram. (08 Marks)
- b. Explain the frame structure of PPP protocol, with neat diagram. (08 Marks)

#### Module-4

- 7 a. List out the Random Access Protocols and explain CSMA/CA. (10 Marks)
- b. List out channelization protocols. Explain CDMA. (06 Marks)

OR

- 8 a. Explain Wireless – LAN, with neat architecture and list out its characteristics. (08 Marks)
- b. Explain the layers of Bluetooth, with neat diagram. (08 Marks)

#### Module-5

- 9 a. List the difference between IPV<sub>4</sub> and IPV<sub>6</sub>. Explain any two methods of converting from IPV<sub>4</sub> to IPV<sub>6</sub>. (08 Marks)
- b. Explain the IP Datagram, Header format, with neat diagram. (08 Marks)

OR

- 10 a. Define Home address in mobile IP. Explain three phases for communication in mobile IP. (08 Marks)
- b. Define WiMax. Explain fourth generation (4G) of cellular telephone. (08 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
2. Any revealing of identification, appeal to evaluator and /or equations written eg. 42+8 = 50, will be treated as malpractice.