

# 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. The blank space of the question paper will be treated as malpractice.