U.S.N

P.E.S. College of Engineering, Mandya - 571 401

(An Autonomous Institution affiliated to VTU, Belagavi)
Fourth Semester, B.E. - Computer Science and Engineering
Semester End Examination; May/June - 2019
Data Communication

Time: 3 hrs   *Max. Marks: 100*

*Note: Answer **FIVE** full questions, selecting **ONE** full question from each unit.*

UNIT - I

1 a.	Define Data communication. Explain its four fundamental characteristics.	5
b.	List the five layers and its functionality in TCP / IP model.	8
c.	What do you mean by transmission impairment? Explain causes of transmission impairment.	7
2 a.	Describe Simplex, Half Duplex and Full Duplex of data flow.	6
b.	What are the uses of a layered network model? Compare OSI and TCP / IP model.	6
c.	Explain four performance parameters of network.	8

UNIT - II

3 a.	Explain in detail any six characteristics of digital signal.	6
b.	Describe ASK, FSK and PSK mechanisms and apply them over the digital data 101101.	6
c.	Define FHSS and explain how it achieves bandwidth multiplexing?	8
4 a.	Explain different types of transmission modes.	8
b.	Explain in detail synchronous TDM.	6
c.	Define DSSS. Explain how it achieves bandwidth multiplexing?	6

UNIT - III

5 a.	What is virtual circuit network? List five characteristics of VCN.	6
b.	List the advantages and disadvantages of optical fiber.	8
c.	Explain the unguided signals, propagation methods.	6
6 a.	Compare circuit switched network, datagram and virtual circuit.	6
b.	With an application, explain the eight ranges of electromagnetic spectrum defined as radio waves and microwaves.	8
c.	List the services of a data link layer with explanation.	6

UNIT - IV

7 a.	Explain CRC with block diagram and example.	8
b.	Compare Flow Control and Error Control.	4
c.	Explain stop and wait protocol.	8
8 a.	Explain hamming distance for error detection.	6
b.	Explain the concept of byte stuffing and unstuffing with example.	6
c.	Explain framing and transition phases in point-to-point protocol.	8

UNIT - V

9 a. Explain frame format of standard Ethernet.   10

   b. Explain architecture of IEEE 802.11.   10

10 a. List out five goals of fast Ethernet. Explain auto negotiation.   8

   b. Explain characteristics of wireless medium.   4

   c. Explain architecture of Bluetooth with neat diagram.   8

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