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Sahyadri College of Engineering & Management (Adyar, Mangaluru) CENTRAL LIBRARY

10CS55

Fifth Semester B.E. Degree Examination, June/July 2018
Computer Networks – I

Time: 3 hrs. Max. Marks:100

Note: ***Answer any FIVE full questions, selecting at least TWO questions from each part.***

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.

PART – A

1 a. What is the difference between data and information? **(02 Marks)**

b. What are the basic characteristics of data communication? Explain. **(06 Marks)**

c. What are the functional roles of the following:
(i) Physical layer (ii) Data link layer (iii) Network layer
(iv) Transport layer. **(12 Marks)**

2 a. What do you mean by a composite signal? How does it help in digital data transmission? Explain. **(04 Marks)**

b. Define : (i) Bit rate (ii) Bit length. **(02 Marks)**

c. What is meant by Transmission impairement? Discuss 'Noise'. **(10 Marks)**

d. What is the propagation time, if the distance between the two points is 12000 km? Assume propagation speed in the cable is 2.4×10^8 m/s. **(04 Marks)**

3 a. Why does multiplexing significant in data transmission? **(02 Marks)**

b. What is synchronous TDM? Explain. **(04 Marks)**

c. What is the main purpose of spread spectrum? Explain FHSS. **(08 Marks)**

d. What do you mean by datagram network? Explain its working principle. **(06 Marks)**

4 a. What do you mean by virtual circuit network? Explain the establishment phase of virtual circuit network. **(08 Marks)**

b. Which are the two types of transmission errors? Explain. **(04 Marks)**

c. Discuss the error detection and correction techniques in block coding. **(08 Marks)**

PART – B

5 a. What do you mean by flow control and error control? Discuss its improvisation from stop-and-wait ARQ to Go-Back-N protocol and Go-Back-N to selective repeat protocol. **(12 Marks)**

b. What is the frame format of PPP? Explain. **(08 Marks)**

6 a. Explain slotted ALOHA. **(08 Marks)**

b. Write the chip sequence for 2-stations and for 4-stations using Walsh table. **(04 Marks)**

c. What is the role of MAC sublayer? Explain 802.3 MAC-frame. **(08 Marks)**

7 a. What is GSM? Explain. **(08 Marks)**

b. What are the issues with Hidden and Exposed node? Explain. **(06 Marks)**

c. Which are the layers of Bluetooth? Explain. **(06 Marks)**

8 a. Compare IPV_4 over IPV_6. **(04 Marks)**

b. What is NAT? Explain with an example. **(08 Marks)**

c. What is the need IP addressing scheme? Explain IPV_4. **(08 Marks)**

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