

CRASH COURSE

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10CS55

Fifth Semester B.E. Degree Examination, May 2017 Computer Networks – I

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, selecting atleast TWO questions from each part.

PART – A

- 1 a. What is data communication? What are its important fundamental characteristics? List and explain the five components of a data communication system, with examples. (12 Marks)
b. List out the layers in OSI reference model and explain any two layers in detail. (08 Marks)
- 2 a. Explain about the causes of transmission impairment. (08 Marks)
b. Briefly explain the three parameters of the sine wave with waveform and write the units for each. (06 Marks)
c. An analog signal has a bit rate of 10000 bps and bandwidth of 2000 baud. How many data elements are carried by each signal element? How many signal elements do we need? (06 Marks)
- 3 a. What is spread spectrum? Explain the following techniques for spread spectrum : FHSS and DSSS. (14 Marks)
b. Briefly discuss about delay in virtual circuit networks. (06 Marks)
- 4 a. What is internet checksum? List the steps undertaken by the sender and the receiver for error detection. (08 Marks)
b. With a neat diagram, explain CRC encoder and decoder $C(7, 4)$. (12 Marks)

PART – B

- 5 a. Differentiate between character oriented and bit oriented format for framing. (06 Marks)
b. Explain the frame formats and control fields for different types of HDLC frames. (14 Marks)
- 6 a. List out the different channelization protocols. Explain CDMA. (12 Marks)
b. Explain 802.3 frame format and addressing. (08 Marks)
- 7 a. Describe Bluetooth architecture. (10 Marks)
b. List out the connecting devices used in data communication. Explain about repeaters and bridges. (10 Marks)
- 8 a. Explain in detail about classless address. (10 Marks)
b. Describe the structure of IPv6 address. (06 Marks)
c. Give any two advantages of IPv6 over IPv4. (04 Marks)

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Important Note - 1 On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages. This may be required for identification purposes of evaluation and of questions which are to be treated as unattempted.