SVKM's NMIMS
MUKESH PATEL SCHOOL OF TECHNOLOGY MANAGEMENT & ENGINEERING

Programme: MBA Tech (COMPUTER) Year: II Semester: IV

Academic Year: 2016-2017

Subject: Computer Network

Date: 08 May 2017

Marks: 70
Time: 2.00 pm to 5.00 pm
Durations: 3 (hrs)
No. of pages: 2

Final-Examination

Instructions: Candidates should read carefully the instructions printed on the question paper and on the cover of the Answer Book, which is provided for their use.

1) Question No. 1 is compulsory.
2) Out of remaining questions, attempt any four questions.
3) **In all five questions to be attempted.** (Compulsory)
4) All questions carry equal marks.
5) **Answer to each new question to be started on a fresh page.** (Compulsory)
6) **All questions carry equal marks.**
7) **Assume Suitable data if necessary.**

Q1.

a) Difference between i) broadcasting and multicasting
ii) connection-oriented and connectionless Service [2 marks each]

b) What is framing? Explain Bit Stuffing and what is the output string for input string 1001000000l100000100 if the flag pattern is 10000001? [3]

c) The message 11001001 is to be transmitted using the CRC Polynomial x^3+1 to protect it from errors. Find out the message that should be transmitted. [3]

d) Categorise the IP Address into various classes. [4]

Q2.

a) Explain the OSI Layered architecture. [7]

b) What is switching? Compare circuit and packet switching. [7]

Q3.

a) Compare Analog and Digital signals. [8]

b) Explain the following terms (Any 4): [6]
   i) Data Rate
   ii) Channel capacity
   iii) Transfer Time
   iv) Transmission Time
   v) Propagation Time

Q4.

a) The distance between two stations M and N is 'L' km. All frames are 'K' bits long. The propagation delay per kilometre is't' seconds. Let R b/s be the channel capacity. What is the minimum number of bits for the sequence number field in a frame? [7]

b) Explain the CSMA/CD (Carrier Sense Multiple Access/Collision Detection) method in detail. [7]

Q5.

a) Explain IPv4 header format with the help of neat suitable diagram. [7]

b) If a class B network on the network has a subnet mask of 255.255.248.0, what is the maximum number of hosts per subnet? [3]

c) Explain the Dijkstra's Shortest Path Algorithm with example. [4]

Q6.

a) Explain the features of transmission control protocol. Draw the header format of TCP. [7]

b) Explain about the following issues of transport protocol : [7]

i) Establishing a connection

ii) Releasing a connection

Q7.

a) Explain DNS addressing scheme. [7]

b) Match the following:- [7]

List I	List II
1) Data Link Layer	a) Path determination and IP.
2) Network Layer	b) Ensures reliable transport of data over a physical point-to-point link.
3) Transport Layer	c) Inter host Communication
4) Presentation	d) Allows end-to-end communication between two processes.
5) Session	e) Network Process to application
6) Application	f) Media, signal and binary transmission
7) Physical	g) Data representation and encryption.

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