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

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

Academic Year: 2018-2019

Subject: Computer Networks

Date: 22 April 2019

Marks: 70
Time: 2.00 pm to 5.00 pm
Durations: 3 (hrs)
No. of Pages: 02

Final Examination (2018-19)

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. 1is compulsory.
2) Out of remaining questions, attempt any 4questions.
3) **In all 5 questions to be attempted.**
4) All questions carry equal marks.
5) **Answer to each new question to be started on a fresh page.**
6) **Figures in brackets on the right hand side indicate full marks.**
7) **Assume Suitable data if necessary.**

Q1 A. Explain connection oriented and connectionless services with the help of suitable example (3)

B. How computer networks play an important role in communicating in a network centric world? (4)

C. Explain significance of switching. What are different switching techniques? (4)

D. Explain advantages and disadvantages of various network topologies? (3)

Q2 A. Discuss various types of guided and unguided media. (4)

B. Explain ISO OSI reference model. (4)

C. What is CRC, write algorithm for calculating CRC? If data bit stream is 10100110 generate the codeword for the polynomial code $G(x) = x^3 + X + 1$ (6)

Q3A. Explain Hamming code for error detection and correction with the help of generating a codeword (using even parity) at sender's end and verify it at destination (8)

B. What are the key services of transport layer and application layer? (6)

Q4 A. Explain spanning tree and shortest path algorithm. (7)

B. Explain sliding window protocol and also write its algorithm. (7)

Q5 A. On the basis of functioning explain Hubs, Switches, Bridges and Routers. Also explain advantages and disadvantages associated with above mentioned networking devices. (7)

B. Explain Slotted ALOHA, CSMA/CD and IEEE 802.5 standard/ protocol in detail. Also compare their channel utilization. (7)

Q6 A. The digital signal is to be designed to permit 160 kbps for a bandwidth of 20 KHz. Determine (a) Number of levels and (b) S/N ratio. (4)

B. Explain IPv4 addressing format. (5)

C. What is framing? List various methods of framing and explain any one of them. (5)

Q7 Write short note on any two of the following (14)

a. Transmission mode
b. SMTP and POP
c. DNS and WWW .