Registration No :

Total Number of Pages : 01   **MCA**
                                                                                 MCC303

3rd Semester Back Examination 2019-20
COMPUTER NETWORKS
BRANCH : MCA
Time : 3 Hours
Max Marks : 70
Q.CODE : HB704
Answer Question No.1 which is compulsory and any FIVE from the rest.
The figures in the right hand margin indicate marks.

Q1   **Answer the following questions :**   **(2 x 10)**
   a) Categorize the four basic topologies in terms of line configuration.
   b) Why are protocols needed?
   c) What is the maximum number of characters or symbols that can be represented by Unicode?
   d) What is TCP congestion control algorithm?
   e) What is a peer-to-peer process?
   f) Name the four basic network topologies
   g) Name some services provided by the application layer in the Internet model.
   h) Is the frequency domain plot of an alarm system discrete or continuous?
   i) What does the Shannon capacity have to do with communications?
   j) calculate the corresponding periods of frequency of 24Hz

Q2 **a)** Compare between bridge and switch?   **(5)**
       b) What type of topology is used when customers in an area use cable modems for data transfer purposes? Explain   **(5)**

Q3   Discuss the concept of redundancy in error detection and correction. **(10)**

Q4   What is Frame Relay? Describe the architecture and various layers of Frame relay?   **(10)**

Q5 **a)** Describe the services provided by the data link layer   **(6)**
       b) Differentiate between Physical Address and Logical Address   **(4)**

Q6 **a)** Define piggybacking and its usefulness.   **(5)**
       b) What is the difference between ipv4 and ipv6?   **(5)**

Q7   **What is the Nyquist sampling rate for each of the following signals?**
       a) A low-pass signal with bandwidth of 200 KHz?   **(5)**
       b) A band-pass signal with bandwidth of 200 KHz if the lowest frequency is 100 KHz?   **(5)**

Q8   **Write short Notes on any TWO :**   **(5 x 2)**
       a) Guided media of transmission
       b) AM and FM
       c) NRZ-L scheme