Printed Pages: 02   **Sub Code: RCA402**

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MCA
(SEM IV) THEORY EXAMINATION 2017-18
COMPUTER NETWORK

Time: 3 Hours   *Total Marks: 70*

Note: Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1.   **Attempt *all* questions in brief.**   **2 x 7 = 14**

   a.   Define Radio wave
   b.   Define Protocol. Give the need for Protocol *Layering*
   c.   Explain Nyquist Bit Rate .
   d.   Write about CSMA/CD protocol
   e.   Explain *burst error* .
   f.   Write about Socket?
   g.   *Differentiate between* Symmetric Key Encryption and Asymmetric Key Encryption

SECTION B

2.   **Attempt any *three* of the following:**   **7 x 3 = 21**

   a.   What is switching? Briefly explain different Methods of Switching
   b.   Define Data Communication .Describe Fundamental characteristics of Data Communication
   c.   Briefly explain about IP Addressing. *Differentiate between classful addressing and classless addressing*
   d.   What is congestion? Define congestion control with a suitable Example.
   e.   Briefly Explain Electronic mail system.
         Differentiate between POP3 and IMAP protocol

SECTION C

3.   **Attempt any *one* part of the following:**   **7 x 1 = 7**

   (a)   What is Network topology .Explain different types of topologies
   (b)   Explain Transmission media .Differentiate guided media from unguided media
         .

4.   **Attempt any *one* part of the following:**   **7 x 1 = 7**

   (a)   Describe hamming code. How it is used for error detection and correction? Illustrate with the help of a suitable example.
   (b)   A classless address is given as 167.199.170.82/27. Find the
         I.   The number of addresses in the network
         II.   First address
         III. Last address

5.   **Attempt any *one* part of the following:**   **7 x 1 = 7**

   (a)   Explain any two connecting devices: hubs, link-layer switches, and routers
   (b)   What are the performance measure criteria of a Network? Explain.

6.   **Attempt any *one* part of the following:**   **7 x 1 = 7**

    (a)   *Explain any two* protocol
         a. UDP b. TCP c. SCTP
    (b)   Define Connectionless and Connection-Oriented Protocols

7.   **Attempt any *one* part of the following:**   **7 x 1 = 7**

    (a)   Define Cryptography .List four Cryptography Primitives
    (b)   Define Application-Layer Paradigms