USN ☐☐☐☐☐☐☐☐☐☐

13MCA31

Third Semester MCA Degree Examination, June/July 2017
Computer Networks

Time: 3 hrs.   Max. Marks:100

Note: *Answer any FIVE full questions.*

1   a.   What are the uses of computer networks? What are the social issues associated with it? Explain.   **(10 Marks)**
    b.   Explain TCP/IP reference model.   **(10 Marks)**

2   a.   Explain analog and digital transmission. Which is the preferred method of transmission? Give reasons for its preference.   **(10 Marks)**
    b.   Explain different types of transmission impairments.   **(10 Marks)**

3   a.   Explain different types of wireless transmission media.   **(10 Marks)**
    b.   Explain baseband transmission.   **(10 Marks)**

4   a.   Explain:
         i)   Binary convolutional codes;
         ii)   Reed Solomon code.
         Where are they used?   **(10 Marks)**
    b.   What is piggybacking? Explain sliding window protocol for window of size 1.   **(05 Marks)**
    c.   Explain protocol using goback n.   **(05 Marks)**

5   a.   Explain hidden terminal and exposed terminal problem. How this problem is tackled using MACA protocol? Explain.   **(10 Marks)**
    b.   Explain piconets and Bluetooth protocol stack.   **(10 Marks)**

6   a.   Explain count to infinity problem.   **(06 Marks)**
    b.   Explain hierarchical routing.   **(06 Marks)**
    c.   Explain routing in ad-hoc networks.   **(08 Marks)**

7   a.   Explain TCP header.   **(10 Marks)**
    b.   Explain four scenarios of releasing connection using three way handshake.   **(10 Marks)**

8   a.   Explain architecture of the email system.   **(10 Marks)**
    b.   Explain server farms and web proxies.   **(10 Marks)**

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