JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Tech IV Year I Semester Examinations, May/June - 2013
Computer Networks
(Common to ECE, EIE, BME, ECM)

Time: 3 Hours   Max. Marks: 75

Answer any Five Questions
All Questions Carry Equal Marks
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1.a)   Describe the design issues of data link layer of OSI model.
 b)   Define: protocol, digital signal.   [7+8]

2.a)   Explain the working of packet switching with an example.
 b)   What is twisted pair cable? What is the difference between category 3 and category 5 twisted pair cables?   [7+8]

3.a)   Calculate CRC, if message polynomial $(M(x)) = x^7+x^5+1$ and generator polynomial $(G(x)) = x^3+1$.
 b)   Explain 'supervisory frame' format of HDLC.
 c)   Describe the working of stop-and-wait ARQ protocol.   [15]

4.a)   Explain the need for medium access control protocol. Describe the frame format of Ethernet.
 b)   List the benefits of a wireless LAN. What is a hidden node in a wireless LAN?
                                                                              [7+8]

5.a)   What is a bridge? Explain the working of a spanning tree bridge.
 b)   Which is better, a low frequency reuse factor of a high frequency reuse factor? Justify your answer.   [7+8]

6.a)   What is UDP? List its uses.
 b)   Describe TCP connection establishment using 3-way handshake.   [7+8]

7.a)   What is ICMP? Explain its use.
 b)   What are the various classes of IPv4 addressing? Give example for each.
 c)   Explain integrated services QoS model.   [15]

8.   Write short technical notes on
      a) DNS
      b) Multicast routing protocols
      c) Backbone networks.   [15]

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