

R09

Code No: 09A70403

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**

- 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 or 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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