Code: R7410401

R7

IV B.Tech I Semester (R07) Supplementary Examinations, May 2012
COMPUTER NETWORKS
(Common to Electronics & Communication Engineering and Electronics & Instrumentation Engineering)

Time: 3 hours Max Marks: 80

Answer any FIVE questions
All questions carry equal marks

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1. (a) Explain why layered approach is used for design of computer network.
   (b) Compare LAN, WAN and MAN.
   (c) Explain how Novell network works.

2. (a) What is ISDN? What is the difference between narrowband and broad-band ISDN? What are the different types of interfaces supported by ISDN?
   (b) What is the purpose of physical layer? Discuss various physical media for data transmission.

3. (a) Explain how hamming method can be used to correct burst errors.
   (b) A channel has a bit rate of 4kbps and a propagation delay of 20ms. For what range of frame sizes does stop-and wait give an efficiency of at least 50%.
   (c) Give frame format of HDLC protocol and explain about each field?

4. (a) Derive the performance of pure ALOHA and slotted ALOHA.
   (b) What is bridge? What are the types of bridges available and explain how they work.

5. (a) Explain in detail working of distance vector routing protocol.
   (b) What are the solutions for controlled flooding?

6. (a) Compare leaky bucket and token bucket algorithms for traffic shaping?
   (b) Explain ATM network layer.

7. (a) Give the format of TCP header. Explain the different fields in it.
   (b) What is multiplexing? Why is it required? What is the difference between upward and downward multiplexing?

8. (a) Explain the working of e-mail system.
   (b) Explain any one secret key algorithm.

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