



**B.E DEGREE EXAMINATIONS: MAY 2015**

(Regulation 2009)

Sixth Semester

**ELECTRONICS AND COMMUNICATION ENGINEERING**

ECE114: Computer Networks

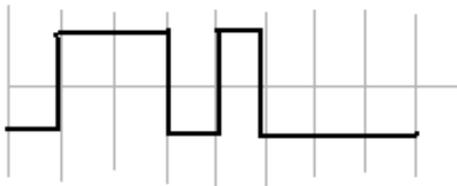
**Time: Three Hours**

**Maximum Marks: 100**

**Answer all the Questions:-**

**PART A (10 x 1 = 10 Marks)**

- In OSI systems, IP-routing is dealt with .....
  - Application layer
  - Transport layer
  - Network layer
  - Physical layer
- The binary stream which NRZ-I waveform corresponds to is .....



- 01101111
  - 11010000
  - 10010111
  - 01011100
- What is the type of operation in wireless Ethernet, when a management/arbitration device exists?
    - point coordination
    - managed arbitration
    - access point
    - management point
  - Hamming code is a method for
    - Error correction
    - Error encapsulation
    - Error detection
    - (a) and (c)
  - Distance Vector Routing uses ..... to determine elements of its own distance vector.
    - outgoing packets
    - echo packets
    - shortest path
    - leaky bucket
  - Class of an IP address can be determined from .....
    - first 8 bits
    - first 4 bits
    - first 3 bytes
    - last 8 bits

7. Unlike ..... the Transport Layer Protocol ..... is a connectionless protocol.
  - a) TCP & UDP
  - b) UDP & TCP
  - c) SCTP & TCP
  - d) UDP & SCTP
8. The programmatic connection between the Network Layer and the upper layers is usually established by small software running in Transport Layer. These are usually called as
  - a) IP address
  - b) Ports
  - c) MAC address
  - d) Sockets
9. Active documents are also referred to as ..... documents.
  - a) Server-site static
  - b) Server-site dynamic
  - c) Client-site dynamic
  - d) Client-site static
10. In symmetric-key cryptography, the key is .....
  - a) Secret
  - b) Public
  - c) Shared
  - d) Both a & c

**PART B (10 x 2 = 20 Marks)**

11. Encode the bit pattern 10010110 in Manchester and differential Manchester encoding techniques.
12. What are the disadvantages of optical fiber as a transmission medium?
13. What is the need for bit stuffing in HDLC?
14. Mention the different kinds of Ethernet networks.
15. Compare virtual circuit and datagram approach.
16. Define Masking.
17. What is the difference between network service and transport service?
18. How are the packet cost referred in distance vector and link state routing algorithms?
19. What are the two parts of addressing system in SMTP?
20. What are the two categories of cryptography methods? What is the main difference between the categories?

**PART C (5 x 14 = 70 Marks)**

21. a) (i) Discuss in detail about the layers of OSI model (7)
  - (ii) Explain the different types of line coding techniques with neat diagrams to (7)  
encode the bit stream 11010010.
- (OR)**
- b) (i) Explain the TCP/IP protocol suite with neat diagram. (7)
  - (ii) Explain detail about the transmission media for data transmission. (7)



- b) (i) Explain the DES algorithm to encrypt and decrypt the message. (7)
- (ii) Discuss the Diffie-Hellman key exchange algorithm and its drawbacks. (7)

\*\*\*\*\*