

Roll No .....

**EC - 601(NGS)****B.E. VI Semester**

Examination, June 2014

**Data Communication And Networks****Time : Three Hours****Maximum Marks : 70**

**Note :** Attempt any one question from each unit. All questions carry equal marks.

**Unit - I**

1. a) What are protocols and standards? Which standards organizations develop standards?
- b) What is OSI reference model? Enlist and explain the main features of the layers of OSI model.

OR

2. a) What are the different addresses used in an internet employing TCP/IP protocols?
- b) Explain LAN, MAN and WAN in terms of data rate, topology used, distance covered, encoding used.

**Unit - II**

3. a) What is TDM? Differentiate between synchronous and statistical TDM.
- b) Compare and contrast a circuit switched network and a packet-switched network.

OR

4. a) Explain by enlisting the different DSL technologies.
- b) What is dial-up modem technology? List some of the common modem standards.

**Unit - III**

5. a) What is CRC? Explain how CRC is used at the transmitter and receiver sides for error detection.
- b) What is a linear block code? What are its properties? What is the minimum distance of a linear block code.

OR

6. a) Explain the algorithm for stop and wait ARQ.
- b) Compare Go-back-N and selective repeat ARQ giving their relative advantages and disadvantages.

**Unit - IV**

7. a) Define the following with reference to multiple access protocols:
  - i) Throughput
  - ii) Collision
  - iii) Contention
  - iv) Vulnerable time
  - v) Polling
- b) Write a short notes on CSMA/CD.

OR

8. Write short notes on

- a) Fast Ethernet
- b) Bluetooth

**Unit - V**

9. a) Explain the functions of the following in a LAN.
  - i) Bridge
  - ii) Hubs
  - iii) Gateway
  - iv) Repeaters
  - v) Switches
- b) Differentiate between the headers of IPv4 and IPv6.

OR

10. Write short notes on (any two):

- a) Routing and its types
- b) IPv4 addresses
- c) Address mapping - from logical to physical address
- d) Internet as a connectionless network

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