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Roll No

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

Examination, June 2013

Data Communication & Networks

(Non-Grading Scheme)

Time : Three Hours**Maximum Marks : 100****Minimum pass Marks: 35**

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

Unit - I

1. a) Explain the different categories of networks.
LAN, MAN, and WAN. 10
- b) Enlist and explain the main functions of different layers of OSI Model. rgpvonline.com 10

OR

2. a) What are protocol and standards? Name some standards organizations? 10
- b) Calculate the maximum bit rate for a channel having band width 3100 Hz and S/N ratio 10 dB. 10

Unit - II

3. a) Differentiate between circuit and packet switching. Which type of switching is better? 10
- b) Explain the different types of switches time division, space division and space time division. 10

OR

4. a) Compare FDM and PDM. 10

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- b) Draw the Manchester and differential Manchester encoded wave form for the following message.

M = [1 1 0 0 1 0 1 1 1 0 1]

10

Unit - III

5. a) Calculate the CRC for the message
 $m(x) = 1101011$ using the generator polynomial
 $g(x) = x^4 + x^3 + 1$. 10
- b) What is ARQ? What is piggy backing? 10

OR

6. a) Differentiate between Go-back N and selective repeat ARQ. 10
- b) Draw and explain the frame format used in HDLC protocol. 10

Unit - IV

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7. a) Draw and explain the frame format used in IEEE 802.5 token Ring LAN. 10
- b) What is vulnerable time? Explain Binary exponential back off algorithm? 10

OR

8. a) What is CSMA/CA? How does it differ from CSMA/CD? 10
- b) Write short note on Blue tooth. 10

Unit - V

9. a) What is a repeater? Enlist its characteristics. What types of repeaters are used in data networks? 10
- b) What are the function of network layer for which it is responsible? 10

OR

10. a) Draw and explain the header format for IP_{v4}. 10
- b) Classify routing algorithms. 10

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