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**Question Paper Code : 21385**

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2015.

Fifth Semester

Computer Science and Engineering

CS 2302/CS 52/10144 CS 503 — COMPUTER NETWORKS

(Common to Information Technology)

(Regulations 2008/2010)

(Common to PTCS 2302 – Computer Networks for B.E. (Part-Time) Fourth Semester  
CSE – Regulations 2009 and 10144 CS 503 – Data Communication and  
Computer Networks for B.E. (Part-Time) Fifth Semester CSE – Regulations 2010)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. State Demorgan's theorem.
2. Draw the symbolic representation of NAND gate and also truth table.
3. Mention the drawback of CSMA.
4. Draw the architecture of wireless LAN.
5. Write down the issues related to network layer.
6. What is meant by BGP?
7. Draw the frame format of UDP.
8. Mention four QoS parameters.
9. What is MIME?
10. What is telnet?

PART B — (5 × 16 = 80 marks)

11. (a) (i) Draw and explain the function of each layers in OSI model. (8)  
(ii) Write a note on any two physical link. (8)  
Or
- (b) (i) Describe any one technique used for error detection. (6)  
(ii) Let  $g_1(x) = x + 1$  and let  $g_2(x) = x^3 + x^2 + 1$ . Consider the information bits (1,1,0,1,1,0). Find the codeword corresponding to these information bits if  $g_1(x)$  is used as the generating polynomial. Find the codeword corresponding to these information bits if  $g_2(x)$  is used as the generating polynomial. Can  $g_2(x)$  detect single errors? double errors? triple errors? If not, give an example of an error pattern that cannot be detected. Find the codeword corresponding to these information bits if  $g(x) = g_1(x)g_2(x)$  is used as the generating polynomial. Comment on the error-detecting capabilities of  $g(x)$ . (10)
12. (a) Describe the token access mechanism used in FDDI networks. (16)  
Or
- (b) (i) Use IEEE 802.3 and IEEE 802.11 to discuss three differences between wired and wireless LANs. (8)  
(ii) With the neat sketches, explain the working principle of simple bridges. (8)
13. (a) (i) With the neat sketches, write down the algorithm of link state routing and explain the same. (8)  
(ii) Why subnetting is necessary? With suitable example, explain the concept of subnetting in class B network. (8)  
Or
- (b) How does the Protocol Independent Multicast Protocols scale well in environments where a relatively small proportions of routers want to receive traffic for certain group? (16)
14. (a) Describe the adaptive transmission mechanism and how it has evolved time as the Internet community has gained more experience using TCP. (16)  
Or
- (b) Explain the fundamental conflict between tolerating burstiness and controlling network congestion. (16)
15. (a) How S-MIME provide better security for Email? Discuss in detail. (16)  
Or
- (b) Discuss the functions of SNMP and various versions in detail. (16)