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Question Paper Code : 60395

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2016.

Sixth Semester

Electrical and Electronics Engineering

CS 2363/CS 65/10144 CS 503 – COMPUTER NETWORKS

(Regulations 2008/2010)

(Common to PTCS 2363 – Computer Networks for BE. (Part-Time) Sixth Semester
– Electrical and Electronics Engineering – Regulations 2009)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Given the data word 1010011110 and the divisor 10111,
 - (a) Show the generation of the codeword at the sender site (using binary division).
 - (b) Show the checking of the codeword at the receiver site (assume no error).
2. Using 5-bit sequence numbers, what is the maximum size of the send and receive windows for each of the following protocols?
 - (a) Stop-and-Wait ARQ
 - (b) Go-Back-NARQ
 - (c) Selective-Repeat ARQ.
3. Why are protocols needed?
4. What is the use of IP address?
5. What is flow control?
6. Define slow start.
7. Define cryptography.
8. What is meant by PGP?
9. What is HTTP?
10. What are overlay networks?

PART B — (5 × 16 = 80 marks)

11. (a) Assume that two nodes A and B in a LAN use sliding window protocol (Selective- Reject – ARQ) with a 4-bit sequence number. Assume A is transmitting and B is receiving, show the window positions for the following events.
- (i) After A sends frames from 0 to 5
 - (ii) B acknowledge upto 4th frame with single ack.
 - (iii) Frame from 6 to 9 are sent.
 - (iv) Frame 5 is acknowledged.
 - (v) Timer for 6 and 7 expired.
- What would be the next transmission between A and B?
- Or
- (b) Explain the different types of Ethernet LAN with its implementation.
12. (a) Write short notes on :
- (i) TCP/IP protocol (4)
 - (ii) Network model (4)
 - (iii) Datagram network (4)
 - (iv) Virtual circuit network. (4)
- Or
- (b) Perform a comparative study between the ISO-OSI model and TCP/IP reference model. (16)
13. (a) Discuss in detail the TCP segment header. Discuss about connection management in TCP. (16)
- Or
- (b) Explain in detail about various congestion control techniques. (16)
14. (a) Explain in detail the symmetric key and public-key encryption mechanisms.
- Or
- (b) Explain in detail IP security.
15. (a) (i) Discuss about the Domain Name Systems (DNS) in computer networking. (8)
- (ii) Write short note on email services. (8)
- Or
- (b) (i) Explain the importance of SNMP with its structure and format. (12)
- (ii) Describe briefly the structure, functions and features of File Transfer Protocol. (4)