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JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST-2 EXAMINATION- April, 2019

B. Tech VI Semester

COURSE CODE: 10B11CI611 MAX. MARKS: 25

COURSE NAME: Computer Networks

COURSE CREDITS: 3 MAX. TIME: 90 Minutes

Note: *All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means.*

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1. Describe the minimum hamming distance for error detection and correction with proper reasoning. **(2) (CO3)**
2. Describe the CRC method for the following dataword and divisor. **(3) ((CO3)**
   Dataword: 1010011110
   Divisor: 10111
3. A slotted ALOHA network transmits 300-bit frames using a shared channel with a 600 kbps bandwidth. Find the throughput, if the system (all stations together) produces 1000 frames per second. **(2) (CO3)**
4. Draw flow diagram of CSMA/CD. Write-down the differences between the functioning of ALOHA and CSMA/CD. **(3) (CO3)**
5. Describe the transition diagram of PPP protocol. **(3) (CO3)**
6. An Ethernet MAC sublayer receives 1510 bytes of data from the upper layer. Can the data be encapsulated in one frame? If not, how many frames need to be sent? What is the size of the data in each frame? **(3) (CO3)**
7. Describe ARP protocol to map logical to physical address. **(3) (CO4)**
8. When a machine (router or host) receives a frame, it drops the header and the trailer, leaving the datagram. Then why "Total Length" field is included that is not needed in IP datagram? **(3) (CO4)**
9. In an IPv4 packet, the value of HLEN is 5, and the value of the total length field is Ox0028. How many bytes of data are being carried by this packet? **(3) (CO4)**