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Question Paper Code: 35802

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2018

Fifth Semester

Information Technology

01UIT502 – COMPUTER NETWORKS

(Common to Computer Science and Engineering)

(Regulation 2013)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

1. In a network with 5 devices find the total number of cable links required for (a) mesh topology (b) star topology.
2. Bit-stuff the data: 000111111100111110100011111111111000011111.
3. How does a bridge differ from a repeater?
4. What is piconet?
5. What is meant by packet switching?
6. Mention the uses of ARP and RARP protocols.
7. Why “A priority queue can provide better QoS than the FIFO queue”?
8. List the uses of UDP.
9. Mention the different levels in domain name space.
10. Define URL.

PART - B (5 x 16 = 80 Marks)

11. (a) (i) Distinguish between single bit error and burst error. Which of these errors is more likely to occur in data transmission? Justify your answer. (8)
- (ii) A sender needs to send the four data items 0x3456, 0xABCC, 0x02BC and 0xEEEE. Answer the following: (8)
- 1) Find the checksum at the sender site
 - 2) Find the checksum at the receiver site if there is no error
 - 3) Find the checksum at the receiver site if the second data item is changed to 0xABCE and the third data item is changed to 0x02BA

Or

- (b) Draw the OSI Network architecture and explain the functionalities of each layer in detail. (16)
12. (a) Describe the CSMA/CD protocol and comment on its performance for medium access. (16)

Or

- (b) (i) Explain in detail the architecture and addressing mechanism of IEEE 802.11. (8)
- (ii) Illustrate how RTS/CTS signals can be used to overcome the hidden terminal problem. (8)
13. (a) Demonstrate the class full IP address with its types and example. (16)

Or

- (b) Explain in detail various error reporting and query messages of ICMP. (16)
14. (a) Explain how QoS is provided through Integrated Services and Differentiated Services. (16)

Or

- (b) If UDP does not provide any service guarantees or reliable transfer, why can't the application directly access IP? Explain UDP in detail. (16)

15. (a) Explain the role of a DNS on a computer network, including its involvement in the process of a user accessing a web page. (16)

Or

(b) (i) Illustrate the classification of firewalls. (10)

(ii) Illustrate how FTP differs from client server application. (6)

