**C**

**Reg. No. :** | | | | | | | | | | |

**Question Paper Code: 55404**

.B.E./B.Tech. DEGREE EXAMINATION, MAY 2024

Fifth Semester

Electronics and Communication Engineering

15UEC504- DATA COMMUNICATION AND NETWORKS

(Regulation 2015)

Duration: Three Hours Maximum: 100 Marks

Answer ALL Questions

PART - A (5 x 1 = 5 Marks)

1. The Medium Access Control sub layer resides in _____ Layer CO1-R

   (a) Transport (b) Network (c) Physical (d) Data link

2. _____ Control refers to a set of procedures used to restrict the amount of data that the sender can send before waiting for acknowledgment CO2-U

   (a) Flow Control (b) Error (c) Transmission (d) None of the above

3. DHCP (dynamic host configuration protocol) provides _____ to the client CO3-U

   (a) IP Address (b) MAC Address (c) URL l) None of the above

4. A _____ is a TCP name for a transport service access point. CO4-R

   (a) Port (b) Pipe (c) Node (d) None of the above

5. In file transfer protocol, data transfer can be done in _____ CO5-R

   (a) Stream Mode (b) Block Mode (c) Compressed Mode (d) All of the above

PART - B (5 x 3 = 15 Marks)

6. Contrast circuit switching and packet switching. CO1- Ana
7. Outline the importance of ARQ with respect to error control? CO2-U
8. Enumerate the advantages of IPV6 over IPV4? CO3-U
9. List the various congestion control mechanism CO4-R
10. Justify your answer with respect to persistent HTTP? CO5-R

PART -C ( 5 x 16 = 80 Marks)

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|---|---|---|---|---|
| 11. | (a) | Draw the OSI network architecture and explain the functionalities of each layer in detail. | CO1-U | (16) |
| | | Or | | |
| | (b) | (i) Explain the Frequency Division Multiplexing technique in detail. | CO1-U | (8) |
| | | (ii) Demonstrate and explain in detail about the features of transmission media. | CO1-U | (8) |
| 12. | (a) | Discuss in detail about the flow control mechanisms with suitable illustration. | CO2-U | (16) |
| | | Or | | |
| | (b) | Write Short notes on | CO2-U | (8) |
| | | (i) Wireless LAN | | |
| | | (ii) Wired LAN | CO2-U | (8) |
| 13. | (a) | Describe in details the working principle of Dynamic Host Control Protocol. | CO3-U | (16) |
| | | Or | | |
| | (b) | Outline the features of ICMP and Contrast with IGMP. | CO3-U | (16) |
| 14. | (a) | How is congestion controlled? Explain in detail about congestion controlled technique in detail. | CO4-U | (16) |
| | | Or | | |
| | (b) | Explain the scheduling technique to improve the QoS. | CO4-U | (16) |
| 15. | (a) | (i) Demonstrate the functionality of SNMP. | CO5-U | (8) |
| | | (ii) Discuss in detail, File Transfer an application layer protocol. | CO5-U | (8) |
| | | Or | | |
| | (b) | Illustrate the performance of RSA Algorithm with prime numbers 7 and 11 respectively. | CO5-U | (16) |