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| **B. E. Degree (Autonomous) Fifth Semester End Examination (SEE), Feb/March 2024**  **Department of Computer Science & Engineering**  **Computer Networks** | | | | | | | | | | | | | | | | | | | |
| **(Model Question Paper - I)** | | | | | | | | | | | | | | | | | |  |  |
| **[ Time: 3 Hours ]** | | | | | | | | | | |  | | | | **[ Maximum Marks: 100 ]** | | | | |
|  | | | | | | | **Instructions to students:**  **Answer FIVE FULL questions.** | | | | | | | | |  | |  |  |
|  | | | | | | | | | | | | | | | | | |  |  |
| **Q.No** | | | | **Questions** | | | | | | | | | | | | | **Marks** | **Course Outcomes** | **RBT Level** |
| **1** | **a)** | | | With a suitable diagram, explain the different components of data communication. | | | | | | | | | | | | | **[06 M]** | **CO1** | **L2** |
|  | **b)** | | | Describe the fundamental characteristics of Data Communication. | | | | | | | | | | | | | **[04 M]** | **CO1** | **L2** |
|  | **c)** | | | List and Explain the various network topologies. | | | | | | | | | | | | | **[10 M]** | **CO1** | **L1, L2** |
|  |  | | | **OR** | | | | | | | | | | | | |  |  |  |
| **2** | **a)** | | | With neat diagram, explain the OSI model. | | | | | | | | | | | | | **[10 M]** | **CO1** | **L1** |
|  | **b)** | | | Explain TCP/IP protocol suite. | | | | | | | | | | | | | **[10 M]** | **CO1** | **L1,L2** |
| **3** | **a)** | | | Explain Hamming Distance and Minimum Hamming distance and with suitable examples calculate Hamming Distance and Minimum Hamming distance | | | | | | | | | | | | | **[10 M]** | **CO2** | **L2, L3** |
|  | **b)** | | | Discuss Error detection and Error correction are performed in Block Coding. Explain with examples. | | | | | | | | | | | | | **[10 M]** | **CO2** | **L2** |
|  |  | | | **OR** | | | | | | | | | | | | |  |  |  |
| **4** | **a)** | | | Explain Cyclic Redundancy Check. | | | | | | | | | | | | | **[10 M]** | **CO2** | **L2** |
|  | **b)** | | | What is Checksum? Explain Internet Checksum with suitable example. | | | | | | | | | | | | | **[10 M]** | **CO2** | **L1, L2** |
| **5** | **a)** | | | Explain Routing Algorithms. | | | | | | | | | | | | | **[10 M]** | **CO2** | **L2** |
|  | **b)** | | | With a neat diagram illustrate Leaky Bucket algorithm. | | | | | | | | | | | | | **[10 M]** | **CO2** | **L4** |
|  |  | | | **OR** | | | | | | | | | | | | |  |  |  |
| **6** | **a)** | | | Explain IPV4 Addressing. | | | | | | | | | | | | | **[10 M]** | **CO3** | **L2** |
|  | **b)** | | | Discuss IPV6. | | | | | | | | | | | | | **[10 M]** | **CO3** | **L2** |
| **7** | **a)** | | | Explain the User datagram format and UDP operation. | | | | | | | | | | | | | **[10 M]** | **CO3** | **L2** |
|  | **b)** | | | With suitable diagrams illustrate the TCP connection using three way handshaking. | | | | | | | | | | | | | **[10 M]** | **CO3** | **L4** |
|  |  | | | **OR** | | | | | | | | | | | | |  |  |  |
| **8** | **a)** | | | Explain Open Shortest Path First protocol. | | | | | | | | | | | | | **[10 M]** | **CO3** | **L2** |
|  | **b)** | | | Explain the Internet routing protocol RIP. | | | | | | | | | | | | | **[10 M]** | **CO3** | **L2** |
| **9** | **a)** | | | Using the four scenario explain the architecture of Electronic Mail. | | | | | | | | | | | | | **[10 M]** | **CO4** | **L2** |
|  | **b)** | | | Explain Domain Name Space. | | | | | | | | | | | | | **[10 M]** | **CO4** | **L2** |
|  |  | | | **OR** | | | | | | | | | | | | |  |  |  |
| **10** | **a)** | | | Describe the FTP standard provided by TCP/IP. | | | | | | | | | | | | | **[10 M]** | **CO4** | **L2** |
|  | **b)** | | | List and explain various functions of a Network management system and Explain them. | | | | | | | | | | | | | **[10 M]** | **CO4** | **L1, L2** |