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| **DIT UNIVERSITY, DEHRADUN**   |  |  | | --- | --- | | **Diploma (CSE)** | **: END TERM EXAMINATION, EVEN SEM 2023-24 (SEM VI)** | | | | | | | | | | | | | |
| **Roll No.** |  |  |  |  |  |  |  |  |  |  |  |  |
| **Subject Name: Advanced Computer Networks** | | | | | | | | | | | | |

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| **Time: 3 Hours** | **Total Marks: 100** |
| **Note: All questions are compulsory. No student is allowed to leave the examination hall before the completion of the exam.**  **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**   |  |  |  | | --- | --- | --- | | **Q.1)** | **Attempt all Parts :** | | |  | (a) | Explain the concept of Ethernet. How does it work in a local area network (LAN)? | |  | (b) | What are the advantages of packet switching over circuit switching? | |  | (c) | Describe the OSI model and its layers briefly. | |  | (d) | Differentiate between FDM and TDM multiplexing techniques. | |  |  | **[4 x 5= 20]** | |  | | | | **Q.2)** | **Attempt all Parts :** | | |  | (a) | Explain the concept of socket programming. | |  | (b) | Discuss the importance of addressing and routing in computer networks. | |  | (c) | Explain the functions of the transport layer in the TCP/IP model. | |  | (d) | What is SNMP? Explain its role in network management. | |  |  | **[4 x 5= 20]** | |  | | | | **Q.3)** | **Attempt any two parts :** | | |  | (a) | Discuss the different types of security measures used in computer networks. | |  | (b) | Explain the concept of packet switching protocol X.25 and its operation. | |  | (c) | Explain the role of routing protocols like RIP, OSPF, and BGP in internet routing. | |  |  | **[2 x 10= 20]** | |  | | | | **Q.4)** | **Attempt any two parts :** | | |  | (a) | Describe the types of multiplexing with examples. | |  | (b) | Discuss the concept of traffic engineering and its significance in network management. | |  | (c) | What are the different types of encryption algorithms used in cryptography? Explain with examples. | |  |  | **[2 x 10= 20]** | |  | | | | **Q.5)** | **Attempt any two parts :** | | |  | (a) | Discuss the security challenges faced by web applications and the measures to mitigate them. | |  | (b) | Discuss the role of routing in the Internet. Compare intra and interdomain routing. | |  | (c) | How does internetworking work? Discuss the role of X.75 protocol in internetworking. | |  |  | **[2 x 10= 20]** | | -----END OF PAPER ---- | | | | |