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| **DIT UNIVERSITY DEHRADUN**   |  |  | | --- | --- | | **MCA** | **END TERM EXAMINATION, ODD SEM 2022-23 (SEM-III)** | | | | | | | | | | | | | |
| **Roll No.** |  |  |  |  |  |  |  |  |  |  |  |  |
| **Subject Name: 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:** | | **BTL** | **CO** | |  | **(a)** | What is unicasting and multicasting? | **L1** | **CO1** | |  | **(b)** | Explain topology and write any two advantage of star topology. | **L2** | **CO1** | |  | **(c)** | What is the difference between direct and indirect delivery? | **L1** | **CO1** | |  | **(d)** | Find the netid and the hosted of these classful IP addresses:  (i)218.157.83.122  (ii)190.93.63.21 | **L4** | **CO4** | |  |  | [4 x 5= 20] |  |  | |  | | |  |  | | **Q.2)** | Attempt all Parts: | | **BTL** | **CO** | |  | **(a)** | Compare computer network with respect to their physical sizes. | **L4** | **CO4** | |  | **(b)** | A block of address is granted to a small organization. We know that one of the addresses is 205.16.37.39/30.what are the first address and the last address in the block. | **L3** | **CO4** | |  | **(c)** | Explain any two protocols of application layer of OSI model. | **L2** | **CO2** | |  | **(d)** | Change the following IPV4 addresses from dotted -decimal notation to binary.  (i)152.36.91.102  (ii)190.93.63.21 | **L1** | **CO4** | |  |  | [4 x 5= 20] |  |  | |  | | |  |  | | **Q.3)** | Attempt any Two Parts: | | **BTL** | **CO** | |  | **(a)** | Explain TCP header format in detail with the help of a diagram. | **L2** | **CO2** | |  | **(b)** | Explain three way handshaking protocol in detail. | **L2** | **CO4** | |  | **(c)** | Explain any one algorithm that is used in intra domain routing with the help of a diagram. | **L2** | **CO2** | |  |  | [2 x 10= 20] |  |  | |  | | |  |  | | **Q.4)** | Attempt any Two Parts: | | **BTL** | **CO** | |  | **(a)** | Explain the CSMA/CD method of medium access in Ethernet LANs. | **L2** | **CO2** | |  | **(b)** | Compare the IPv6 and IPv4 header. | **L2** | **CO4** | |  | **(c)** | What would be the transmitted frame? If the frame is 110101011 and generator is x4+x+1? | **L1** | **CO2** | |  |  | [2 x 10= 20] |  |  | |  | | |  |  | | **Q.5)** | Attempt any Two Parts: | | **BTL** | **CO** | |  | **(a)** | Explain classful and classless addressing with respect to IPv4. | **L2** | **CO4** | |  | **(b)** | Compare and contrast the stop and wait Protocol with sliding window protocol. | **L2** | **CO3** | |  | **(c)** | Discuss and list the congestion control policies at the data link, network and transport layer that can affect the congestion. | **L5** | **CO2** | |  |  | **[2 x 10= 20]** |  |  | | **-----END OF PAPER ----** | | |  |  | | |