**POORNIMA UNIVERSITY, JAIPUR**

**END SEMESTER EXAMINATION, APRIL 2023**

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|  | **2BT4137** | Roll No. | Total Printed Pages: 2 |
| **2BT4137** |  |
| B. Tech. II Year IV- Semester (Main/Back) End Semester Examination, April 2023  **(CE / CC / AIDS / CS)** | |
| **BCECCE4101 / BCE04103 / BCC04103 : Computer Networks** | | | |

# Time: **3** Hours. Total Marks: **60**

Min. Passing Marks: **21**

*Attempt* ***five*** *questions selecting one question from each Unit. There is internal choice from Unit I to Unit V. Marks of each question or its parts are indicated against each question / parts. Draw neat sketches wherever necessary to illustrate the answer. Assume missing data suitably (if any) and clearly indicate the same in the answer.*

Use of following supporting material is permitted during examination for this subject.

# **1.--------------------------Nil--------------------** **2.------------------Nil-----------------------**

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|  |  | **UNIT-I (CO1)** | **Marks** | **Bloom Level** |
|  |  |  |  |  |
| **Q.1** | **(a)** | Define the term about networking and also explain types of networks in computer networks. | **(6)** | **Remember** |
|  |  |  |  |  |
|  | **(b)** | Write a short note on :  (a) NIC (b) Gateway | **(6)** | **Remember** |
|  |  |  |  |  |
|  |  | **OR** |  |  |
|  |  |  |  |  |
| **Q.2** | **(a)** | Define the term OSI and also explain the OSI model in detail with one example. | **(6)** | **Remember** |
|  |  |  |  |  |
|  | **(b)** | Explain about the wiring standards and cabling with neat diagram. | **(6)** | **Understand** |
|  |  |  |  |  |
|  |  | **UNIT-II (CO2)** |  |  |
|  |  |  |  |  |
| **Q.3** | **(a)** | Describe the TLS with neat diagram also write down the main components and how does TLS work. | **(6)** | **Understand** |
|  |  |  |  |  |
|  | **(b)** | Explain presentation layer and application layer and it function and support in computer networks. | **(6)** | **Understand** |
|  |  |  |  |  |
|  |  | **OR** |  |  |
|  |  |  |  |  |
| **Q.4** | **(a)** | Define:  (a) POP3 (b) IMAP | **(6)** | **Remember** |
|  |  |  |  |  |
|  | **(b)** | Difference between FTP, TFTP and SFTP (6 points) | **(6)** | **Analyze** |
|  |  |  |  |  |
|  |  | **UNIT-III (CO3)** |  |  |
|  |  |  |  |  |
| **Q.5** | **(a)** | Explain about IPV4 addressing and IPV4 datagram format in detail with neat diagram. | **(6)** | **Understand** |
|  |  |  |  |  |
|  | **(b)** | Consider the following networks: network I (containing nodes A, B, C, D, E, F and G). Apply distance vector routing algorithm to find shortest remaining path. The diagram is shown below: | **(6)** | **Analyze** |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  | **OR** |  |  |
|  |  |  |  |  |
| **Q.6** | **(a)** | Difference between TCP and UDP with one example. | **(6)** | **Analyze** |
|  |  |  |  |  |
|  | **(b)** | In IPV4 addressing the requirement of hosts is **40** in **class C** Find:   1. Number of Hosts 2. Number of Subnet 3. Customized subnet mask 4. Valid subnet | **(6)** | **Evaluate** |
|  |  |  |  |  |
|  |  | **UNIT-IV (CO4)** |  | **Evaluate** |
|  |  |  |  |  |
| **Q.7** |  | A bit stream **10101010** is transmitted using the standard CRC method. The generator polynomial is **x3 +x2 +1**. Show the actual bit string transmitted. Suppose the second bit from the left is inverted during transmission. Show that this error is detected at the receiver’s end. | **(12)** |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  | **OR** |  |  |
| **Q.8** | **(a)** | Define the term :   1. Stop and wait protocol 2. Go-back-N protocol | **(6)** | **Remember** |
|  |  |  |  |  |
|  | **(b)** | Differentiate between Wireless security protocol WEP and WPA. | **(6)** | **Analyze** |
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|  |  | **UNIT V (CO5)** |  |  |
|  |  |  |  |  |
| **Q.9** | **(a)** | Describe in detail about WAN switching techniques. 1) Packet switching 2) circuit switching. | **(6)** | **Understand** |
|  |  |  |  |  |
|  | **(b)** | Explain the term about virtual LAN, virtual private networking in detail with example. | **(6)** | **Understand** |
|  |  |  |  |  |
|  |  | **OR** |  |  |
|  |  |  |  |  |
| **Q.10** | **(a)** | Discuss about PSTN, CATV in detail. | **(6)** | **Understand** |
|  |  |  |  |  |
|  | **(b)** | Explain about connecting to the internet in computer networks and also define cellular technologies and last mile fiber. | **(6)** | **Understand** |