**20ECJ12**

**Hall Ticket Number:**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| **III/IV B.Tech (Regular) DEGREE EXAMINATION** | | | |
| **February,2023** | **Electronics and Communication Engineering** | | |
| **Fifth Semester** | **Data Communication and Computer Networks** | | |
| **Time:** Three Hours | | **Maximum: 7**0 Marks | |
| *Answer Question No. 1 Compulsorily.* | | | (14X1 = 14 Marks) |
| *Answer* ***ANY ONE*** *question from each Unit.* | | | (4X14=56 Marks) |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 1. | a) | Specify various uses of Computer Networks. | CO1 | L2 | 1M |
|  | b) | List out the various layers of OSI security architecture. | CO1 | L1 | 1M |
|  | c) | What is mean by data communication? | CO1 | L1 | 1M |
|  | d) | How are the guided media differing from unguided transmission media? | CO2 | L2 | 1M |
|  | e) | What is protocol? Give an example | CO2 | L2 | 1M |
|  | f) | What are the responsibilities of data link layer? | CO2 | L2 | 1M |
|  | g) | Mention the types of errors. | CO3 | L2 | 1M |
|  | h) | Mention the types of error correcting methods. | CO3 | L2 | 1M |
|  | i) | What are different types of bridges? | CO3 | L1 | 1M |
|  | j) | Mention the different kinds of Ethernet networks. | CO3 | L2 | 1M |
|  | k) | What is a repeater? | CO4 | L2 | 1M |
|  | l) | What are the network support layers and the user support layers? | CO4 | L2 | 1M |
|  | m) | What is a virtual circuit? | CO4 | L2 | 1M |
|  | n) | Define Routers. | CO4 | L1 | 1M |
| **Unit -I** | | | | | |
| 2. | a) | Explain TCP/IP reference model with a neat diagram | CO1 | L1 | 7M |
|  | b) | Describe Wide Area Networks and its Components | CO1 | L2 | 7M |
|  |  | **(OR)** |  |  |  |
| 3. | a) | Explain the Shielded twisted pair (STP) and Unshielded twisted pair (UTP) with respect to guided transmission media. | CO1 | L2 | 7M |
|  | b) | Differentiate between OSI and TCP /IP reference models. | CO1 | L1 | 7M |
|  |  | **Unit -II** |  |  |  |
| 4. | a) | Explain briefly about the Persistent and Nonpersistent CSMA protocols. | CO2 | L2 | 7M |
|  | b) | What are the design issues of Data Link Layer? Explain | CO2 | L2 | 7M |
|  |  | **(OR)** |  |  |  |
| 5. | a) | Explain Data link protocols | CO2 | L1 | 7M |
|  | b) | What are the various types of error detection methods? | CO2 | L2 | 7M |
|  |  | **Unit -III** | |  |  |
| 6. | a) | Discuss about ETHERNET which is used in Local Area Networks. | CO3 | L1 | 7M |
|  | b) | Illustrate architecture of 802.11 (Wireless LAN) in detail. | CO3 | L2 | 7M |
|  |  | **(OR)** |  |  |  |
| 7. | a) | What are various protocols used in BLUETOOTH? Explain each. | CO3 | L1 | 7M |
|  | b) | Discuss various design issues of Network layer in detail. | CO3 | L2 | 7M |
|  |  | **Unit -IV** |  |  |  |
| 8. | a) | What is Domain Name System? Discuss the main divisions of the domain name systems. | CO4 | L1 | 7M |
|  | b) | What is voice over IP? Discuss in detail. | CO4 | L2 | 7M |
|  |  | **(OR)** |  |  |  |
| 9. | Write short notes on the following   1. Electronic mail 2. World Wide Web | | CO4 | L2 | 14M |

****