**20ECD12**

**Hall Ticket Number:**

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

|  |  |  |  |
| --- | --- | --- | --- |
| **III/IV B.Tech (Regular) DEGREE EXAMINATION** | | | |
| **February, 2023** | **Electronics & Communication Engineering** | | |
| **Fifth Semester** | **Telecommunication Switching Systems & 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) | What are the elements of telecommunication systems? | CO1 | L2 | 1M |
|  | b) | How the switching systems can be classified? | CO1 | L1 | 1M |
|  | c) | What are the requirements of an effective switching system | CO1 | L1 | 1M |
|  | d) | How many links are required to connect 5 entities in a point to point network | CO1 | L2 | 1M |
|  | e) | List the advantages and disadvantages of CCS. | CO2 | L3 | 1M |
|  | f) | List the purpose of SS7 | CO2 | L2 | 1M |
|  | g) | Distinguish analog time division switching and digital time division switching. | CO2 | L2 | 1M |
|  | h) | Classify Data networks according to geographical coverage? | CO3 | L2 | 1M |
|  | i) | Relate Baud and bit rate. | CO3 | L1 | 1M |
|  | j) | Classify store and forward switching. | CO3 | L2 | 1M |
|  | k) | What is protocol stack? List the well-known protocol stack. | CO3 | L3 | 1M |
|  | l) | List out 2 principles of ISDN. | CO4 | L2 | 1M |
|  | m) | What are advantages of ISDN? | CO4 | L2 | 1M |
|  | n) | Name some services provided by ISDN. | CO4 | L3 | 1M |
| **Unit -I** | | | | | |
| 2. | a) | Write short notes on evolution of telecommunications. | CO1 | L1 | 7M |
|  | b) | With a block diagram, explain the functions of a step by step switching system. | CO1 | L3 | 7M |
|  |  | **(OR)** |  |  |  |
| 3. | a) | What is the significance of SPC and explain the differences Between Centralized and Distributed SPC? | CO1 | L2 | 7M |
|  | b) | Explain the various operating modes in centralized SPC. | CO1 | L1 | 7M |
|  |  | **Unit -II** |  |  |  |
| 4. | a) | Draw the circuit diagram of basic time division time switching and its applications. | CO2 | L3 | 7M |
|  | b) | Explain the Architecture of SS7 signaling system with its block schematic | CO2 | L4 | 7M |
|  |  | **(OR)** |  |  |  |
| 5. | a) | Discuss different charging plans for a Telecommunication Service | CO2 | L1 | 7M |
|  | b) | Discuss the Numbering plan used in telephone networks | CO2 | L3 | 7M |
|  |  | **Unit -III** | |  |  |
| 6. | a) | What are the switching techniques in data transmission? Compare the circuit switching and packet switching | CO3 | L4 | 7M |
|  | b) | Describe the ISO/OSI reference model in detail. | CO3 | L2 | 7M |
|  |  | **(OR)** |  |  |  |
| 7. | a) | Describe the LAN, MAN, and WAN and list advantages and disadvantages of each network. | CO3 | L1 | 7M |
|  | b) | Differentiate between connection oriented service and connection less service? | CO3 | L2 | 7M |
|  |  | **Unit -IV** |  |  |  |
| 8. | a) | Explain the Principles and evolution of ISDN. | CO4 | L1 | 7M |
|  | b) | Explain the differences between narrow band ISDN and BISDN. | CO4 | L3 | 7M |
|  |  | **(OR)** |  |  |  |
| 9. | a) | Explain different Transmission channels of ISDN | CO4 | L2 | 7M |
|  | b) | Describe the B-ISDN functional module interconnections with neat diagram and write the Broadband channel rates. | CO4 | L3 | 7M |

****