



MAULANA ABUL KALAM AZAD UNIVERSITY OF TECHNOLOGY, WEST BENGAL

Paper Code : EC603 TELECOMMUNICATION SYSTEM

UPID : 006033

Time Allotted : 3 Hours

Full Marks : 70

The Figures in the margin indicate full marks.

Candidate are required to give their answers in their own words as far as practicable

Group-A (Very Short Answer Type Question)

1. Answer any ten of the following :

[1 x 10 = 10]

- (I) The unit of traffic intensity is_____.
- (II) Peak busy hour depends on the consideration of_____
- (III) PABX stands for Private Automatic Branch Exchanges. True /False
- (IV) PSTN stands for Public Switched Telephone Network.True/False
- (V) DTMF stands for_____
- (VI) A telephone set requires a bias current of_____.
- (VII) ITU stands for International Telecommunication Union. True/False
- (VIII) The actual range chosen for touch tone dialing is 700-1700Hz.True/False
- (IX) The function of a switching system is to establish or releasing of connections.True/False.
- (X) Strowger's system is a step-by-step switching system.True/False
- (XI) Crossbar switching system is a/an ----- Exchange.
- (XII) Transmission line may beconsidered as an electrical path with hybrid parameters.True/False.

Group-B (Short Answer Type Question)

Answer any three of the following :

[5 x 3 = 15]

2. How many types of transmission media are used in telecommunication? What are the advantages of twisted pair cable over parallel wire cable? [5]
3. An exchange uses 48 V batteries; a resistance of 300 ohm is placed in series with the battery. If the telephone set resistance is 50ohm.Calculate the loop resistance limit for the minimum current requirement of 23mA for carbon microphone. [5]
4. An exchange serves 2000 subscribers. If average BHCA is 10,000 and the CCR is 60%,calculate the busy hour calling rate. [5]
5. How are the signalling techniques classified? [5]
6. The of switches found busy at different timings of one day in an exchange is given below. Find the Busy Hour &BH Traffic. [5]

Times(AM)	10:00	10:15	10:30	10:45	11:00	11:15	11:30	11:45	12:00
Number of Calls	17	19	25	23	27	28	26	20	21

Group-C (Long Answer Type Question)

Answer any three of the following :

[15 x 3 = 45]

7. Draw the functional block diagram of a Telephone hand set and explain the function of each block. [15]
8. Discuss the different types of transmission media that are used in telecommunication and also mention the advantages and disadvantages of each media. [15]
9. Draw the block diagram of the essential elements of a Switching system and explain each block. [15]
10. What do you mean by Wireless Local Loop(WLL)? Draw and explain the architecture of WLL.Mention the advantages & features of WLL [15]
11. What do you mean by IP switching?Discuss the structure of an IP Switch and also mention the features of the switching. [15]

*** END OF PAPER ***