



R20 Regulation

Subject code:3E6DD

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous, Accredited by NAAC with 'A+' Grade)

B.Tech VI Semester Supplementary Examinations, December 2024

TELECOMMUNICATION SWITCHING SYSTEMS AND NETWORKS (ECE)

Maximum Marks: 70

Date:07.01.2025

Duration: 3 hours

- Note:
1. This question paper contains two parts A and B.
 2. Part A is compulsory which carries 20 marks. Answer all questions in Part A.
 3. Part B consists of 5 Units. Answer any one full question from each unit which carries 10M.
 4. Each question carries 10 marks and may have a, b, c, d as sub questions.

Part-A

All the following questions carry equal marks (10X2M=20) Marks		CO	Bloom Tx
1	Define called subscriber.	1	L1
2	Define Switching system.	1	L1
3	What is stored program control?	2	L1
4	Write types of SPC?	2	L1
5	Define congestion.	3	L1
6	Define Holding time.	3	L1
7	Define Traffic Intensity?	4	L1
8	List any two disadvantages of digital transmission.	4	L1
9	List layers of OSI/ISO reference model.	5	L1
10	List any two advantages of ISDN.	5	L1

Part-B

Answer All the following questions. (5X10M=50Marks)		CO	Bloom Tx
11	Illustrate the configuration of a crossbar switching system using a neat diagram. [10M]	1	L2
OR			
12	Classify in detail the different types of switching systems. [10M]	1	L2
13	Analyze the fundamental structure and operational principles of a Time Slot Interchange (TSI) switch. [10M]	2	L2
OR			
14	Examine the operational principles of Centralized Stored Program Control (SPC) and Distributed SPC. [10M]	2	L2
15	A) Define congestion? [5M] B) During the busy hour, 1200 calls were offered to a group of trunks and six calls were lost. The average call duration was 3 minutes. Find: [5M] (i) The traffic offered (ii) The traffic carried (iii) The traffic lost (iv) The grade of service	3	L2
OR			
16	A) Define delay probability and flow control, and analyze their respective roles and significance in telecommunications systems. [5M]	3	L2

	B) Explain the concept of traffic intensity or unit of traffic, and discuss its significance in telecommunications networks. [5M]		
17	Analyze the operation of an echo suppressor in a Transmission Plan.? [10M]	4	L2
	OR		
18	Differentiate in channel signaling and common channel signaling schemes? [10M]	4	L2
19	Illustrate the layered architecture of the OSI reference model. [10M]	5	L2
	OR		
20	Illustrate ISDN protocol architecture in detail. [10M]	5	L2