



R20 Regulation

Subject code: 3E6DD

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech VI Semester Supplementary Examinations, February 2024

TELECOMMUNICATION SWITCHING SYSTEMS AND NETWORKS (Electronics and Communication Engineering)

Maximum Marks: 70

Date:24.02.2024 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)

1	What is the need for Telecommunication Switching System?	CO1	L1
2	Define calling subscriber.	CO1	L1
3	Define Erlang	CO2	L1
4	What is the main advantage of time division time multiplexing technique?	CO2	L1
5	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 the grade of services and the total duration of the periods of congestions.	CO3	L1
6	Where is delay formulae used?	CO3	L1
7	Write about common channel signaling.	CO4	L1
8	Write about the circuit switching.	CO4	L1
9	What is the difference between ISDN and B-ISDN?	CO5	L1
10	What is LAN	CO5	L1

Part-B

Answer All the following questions.

(5X10M=50Marks)

11	Explain elements of a switching system with neat sketch. (10M)	CO1	L2
OR			
12	Explain about the organization of cross bar exchange. (10M)	CO1	L2
13	A. Discuss about centralized SPC (stored program control) in electronic space division switching. (5M) B. Explain n-Stage Networks with example. (5M)	CO2	L2 L2
OR			
14	Draw and explain time division space switching in detail. (10M)	CO2	L2
15	A. Write short notes on Traffic measurement with example. (5M) B.If sequential is used for the group of trunks five trunks is offered 2E of traffic. Then how much is the traffic carried by i. The first choice trunk?	CO3	L1 L3

	ii. The last choice trunk? (5M)		
	OR		
16	Derive the expression for delay probabilities for queuing systems in detail. (10M)	CO3	L2
17	A. Discuss the Numbering plan used in telephone networks. (5M) B. Write about modes of operation of Common channel Signaling. (5M)	CO4	L2 L1
	OR		
18	Describe the LAN, MAN, and WAN and list advantages and disadvantages of each network. (10M)	CO4	L2
19	Explain ISDN network and protocol architecture in detail. (10M)	CO5	L2
	OR		
20	Explain ISDN network in detail. (10M)	CO5	L2