R17Regulation **Subject code:** 1E7DA

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY
(Autonomous, Accredited by NAAC with 'A' Grade)

B.Tech IV Year I Semester Regular Examinations, February 2021

TELECOMMUNICATION SWITCHING SYSTEMS AND NETWORKS

(Professional elective-IV)

(Electronics and Communication Engineering)

Maximum Marks: 70 Date: 25.02.2021 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.
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 State Trunking Principle
2 What is rotary switch?
3 Define Time multiplexed space switching.
4 What is n stage Combinational Switching?
5 Define unit of traffic.
6 Write about the applications of Delay formulae
7 Define Cellular Mobile Telephony
8 What is LAN and WAN?
9 What is BISDN?
10 Define DSL.

Part-B

Answer All the following questions. **(10M X 5=50Marks)**

11 (i) Explain the working principle of cross bar switch with diagram. (5M)
(ii)Explain the elements of switching systems.(5M)

OR

12 What are the different switching network configurations? Compare their features.(10M)

13 Explain the following(10M)
(i) Distributed SPC
(ii) Centralized SPC

OR

14 Explain in detail about Time Division Time Switching. (10M)

15 Explain the following i) Busy Hour and Congestion ii) Traffic measurement (10M)

OR

16 Consider a group of 1200 subscribers which generate 800 calls during the busy hour. The average holding time is 3.4 minutes. What is the offered traffic in Erlangs, Cent call seconds (CCS) and calls minute(CM)? (10M)

17 Explain the OSI reference model in detail. (10M)

OR

18 Explain the differences between In channel and Common Channel Signaling Schemes.(10M)

19 Discuss how transmission takes place in SONET with frame format.(10M)

OR

20 Explain in detail about ISDN Protocol Architecture and Interfaces. (10M)