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Roll No.

328631(28)

B. E. (Sixth Semester) Examination, 2020

(Old Scheme)

(ET & T Engg.)

**TELECOMMUNICATION SWITCHING CIRCUITS &
NETWORKS**

Time Allowed : Three hours

Maximum Marks : 80

Minimum Pass Marks : 28

Note : Part (a) from each question is compulsory.

***Solve any two parts from parts (b), (c) and
(d) of each question.***

Unit-I

1. (a) Define transit exchange. 2
- (b) What are the advantages of Automatic switching system over manual exchange. 7

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- (c) What are the different signalling tones in an automatic exchange? 7
- (d) Write short note on cross-bar exchange. 7

Unit-II

2. (a) What do you mean by speech digitization? 2
- (b) What are the types of fibers? Explain with suitable diagram. 7
- (c) Draw and explain the time division switching technique. 7
- (d) Write short note on optical detector. 7

Unit-III

3. (a) Define Erlang (E). 2
- (b) Draw and explain Telecommunication network topologies. 7
- (c) With the help of suitable diagram, explain the process of echo suppressor in the returning path. 7
- (d) What is the objective of number plan? 7

Unit-IV

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4. (a) What do you mean by Entity? 2
- (b) Explain data rates in PSTN. 7
- (c) Differentiate between voice traffic & data traffic. 7
- (d) Draw and explain ISO-OSI reference model. 7

Unit-V

5. (a) Enlist any four services that ISDN supports. 2
- (b) What are the three motivational factors that are responsible for the development of ISDN. 7
- (c) Draw and explain the ISDN architecture. 7
- (d) Write short note on ISDN standards. 7