

CBCS Scheme

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16/17SCN251

Second Semester M.Tech. Degree Examination, June/July 2018 **Switching and Statistical Multiplexing in Telecommunication**

Time: 3 hrs.

Max. Marks: 80

**Note: Answer FIVE full questions, choosing
ONE full question from each module.**

Module-1

- 1 a. Describe switching network configurations of a switching system with diagrams. (08 Marks)
- b. Briefly explain evolution of telecommunications system and classify the switching systems. (08 Marks)

OR

- 2 a. What are the advantages and disadvantages of digital voice systems? (10 Marks)
- b. With diagrams explain the different types of subscriber switch boards. (06 Marks)

Module-2

- 3 a. Explain a common control switching system with the help of diagram. (08 Marks)
- b. Design a 6×6 crossbar matrix and explain its working. (08 Marks)

OR

- 4 a. With relevant diagrams, explain the design considerations of touch tone dial telephone. (08 Marks)
- b. With block diagram, explain cross bar exchange organization. (04 Marks)
- c. Design a non-blocking cross point switch system for 4, 16 and 128 subscriber's using stable design parameters and find equipment utilization factor (EUF). (04 Marks)

Module-3

- 5 a. List and explain the different modes of operation of centralized SPC. (10 Marks)
- b. Define MTBF and MTTR, find the unavailability for single and dual processor using the data given, MTBF = 2000 hours, MTTR = 4 hours. (06 Marks)

OR

- 6 a. List the differences between single stage and multistage networks. (08 Marks)
- b. Write a short note on differential coding using relevant diagrams. (08 Marks)

Module-4

- 7 a. Briefly explain the simple PAM time division switching. (08 Marks)
- b. List the different configurations of time multiplexed time switching and explain parallel In/serial out configuration in detail. (08 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and/or equations written eg. 42+8 = 50, will be treated as malpractice.

OR

- 8 a. With necessary diagrams explain time multiplexed space switch with N control memory modules. (08 Marks)
b. Explain two stage TS switch with relevant diagrams. (08 Marks)

Module-5

- 9 a. Write a short note on modeling switching systems. (08 Marks)
b. With necessary block diagram, examples and equations briefly explain delay systems. (08 Marks)

OR

- 10 a. Explain in brief GOS (Grade Of Service). (06 Marks)
b. Explain any two models of blocking models and loss estimates. (10 Marks)

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