(Following Paper ID and Roll No. to be filled in your Answer Book) PAPER ID : 131802 Roll No. |  |  |  |  |  |  |  |
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## B.Tech.

(SEM. VIII) THEORY EXAMINATION 2013-14

## ELECTRONICS SWITCHING

Time : 3 Hours
Total Marks : 100

Note : Attempt all questions. Each question carries equal marks.

1. Attempt any four parts of the following:
(a) Explain point-to-point link networks for $n$ entities.
(b) Describe message switching with telegraph lines. State the major limitations of manual switching system.
(c) Compare Step by Step and Crossbar Switching Systems.
(d) Define BORSHET. Describe subscriber loop system. What are its applications?
(e) Explain electronic switching with neat sketch. What are various advantages and disadvantages of electronic switching?
(f) What do you understand by Reed Electronic Systems? Explain Red Relays.
2. Attempt any two parts of the following :
(a) What are functions of digital switching? List the various advantages and disadvantages of digital switching over analog switching.
(b) What do you understand by Automatic Switching System ? Explain Space Division and Time Division Switching.
(c) What do you understand by digital cross - connect systems ? Differentiate between consolidation and distribution.
3. Attempt any four parts of the following :
(a) What are various parameters of network traffic? Draw and discuss the telecom traffic pattern during a normal working day.
(b) Over a 10 -minute observation interval, 20 users initiate calls. Total calls duration is 4800 seconds. Calculate the load offered to network by subscribers and average subscriber traffic.
(c) Explain lost calls cleared systems with infinite and finite subscribers. Distinguish between grade of service and blocking probability.
(d) A subscriber makes 4 phone calls for duration of 5 minutes, 4 minutes, 3 minutes and 2 minutes in one hour period. Calculate the subscriber traffic in erlangs (E), CCS and CM.
(e) Explain delay line system in telecom traffic.
(f) Find the blocking probability and implementation complexity of a STS switch.
4. Attempt any two parts of the following :
(a) What do you understand by distributed stored program control ? Describe three level processing of distributed stored program control. Derive the formula for availability of single and dual processor architecture.
(b) What do you mean by signaling ? Discuss classifications of signaling techniques.
(c) Draw and discuss block diagram of common channel signaling. What are requirements of CCITT signalling system SST 7 ?
5. Attempt any four parts of the following:
(a) Discuss the error free transmission of packets in TCP/IP. How IP addressing is achieved?
(b) What do you understand by Packet Switching? Explain Packet Formats for different applications and routing control.
(c) What do you understand by ATM? Discuss Input bus/ Output buffer ATM Switch.
(d) Explain the important feature and frame structure of HDLC.
(e) Explain the concept of message switching and circuit switching in detail.
(f) What do you mean by grade of service (GOS) and Blocking Probability $\mathrm{P}_{\mathrm{B}}$ ?
