Printed Pages: 3   EEC-802

(Following Paper ID and Roll No. to be filled in your Answer Books)

Paper ID : 131802   Roll No.☐☐☐☐☐☐☐☐☐☐

B.TECH.

Theory Examination (Semester-VIII) 2015-16

ELECTRONICS SWITCHING

Time : 3 Hours   *Max. Marks : 100*

Section-A

1. Attempt all parts. All parts carry equal marks. Write answer of each part in short.   (2×10=20)

    (a)   Define Grade of service.

    (b)   Define peak hour and busy hour with suitable example.

    (c)   Define Blocking criteria of Telecommunication system. Explain.

    (d)   What is average occupancy of Telecommunication system? Explain.

    (e)   Explain limiation of Strowger step by step switching system.

    (f)   Explain various form of Signaling used in telecom system.

(1)   P.T.O.

2405/**540**/399/9975

(g)   What do you mean by out-band signaling.

(h)   What is the Difference between baud rate and bit rate?

(i)   What do you mean by High Availability?

(j)   What is the difference between Cricuit switching and message switching.

Section-B

2.   **Attempt any five questions from this section.**

(10×5=50)

(a)   A three stage switching structure is to accommodate N = 128 input and 128 output terminals. For 16 first stage and 16 last stage, determine the number of cross points for non-blocking with neat diagram.

(b)   Drive Lee's blocking probability expression.

(c)   Explain the Birth and Death process for telecommunication system with suitble diagram.

(d)   Drive an Erlangs loss formula. A group of 7 trunks is offered 4E of traffic, find (a) the grade of service (b) the probability that only one trunk is busy (c) the probability that only one trunk is free and (d) the probability that at least one trunk is free.

(2)

(e) Explain the architecture of SS7 with diagram and its components with diagram.

(f) Explain Inchannel Signalling and Comon Channel Signalling with their advantage and disadvantage.

(g) Derive an expression for Time-Space switching systems Blocking Probability.

(h) What is concept of Packet switching? Explain X.25 protocol in detail with header format.

Section-C

Note : Attempt any two questions from this section. (15×2=30)

3. Derive an Erlangs Delay formula. A message switching network is to be designed for 90% utilization of itstransmission link. Assuming exponentially distributed message lengths and an arrivals rate of 10 message per min. What is the average waiting time and what is the probability that the waiting time exceeds 3 minutes?

4. Explain Asynchronous Transfer Mode switching concept, Header and Layered structure in detail with diagram.

5. Write short note on the following :

   (i) Reed Relay with construction and working

   (ii) Cross Bar switching matrix constructiona and working.

(3)