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B.TECH.

THEORY EXAMINATION (SEM–VIII) 2016-17

ELECTRONIC SWITCHING

Time : 3 Hours *Max. Marks : 100*

Note : *Be precise in your answer. In case of numerical problem assume data wherever not provided.*

SECTION – A

1. Attempt the following: **10 x 2 = 20**

a) Give the two differences between automatic exchange and manual exchange.

b) Write difference between voice traffic and data traffic.

c) Define in band and out band signalling and compare them.

d) Draw HDLC frame structure.

e) What is two motion selector?

f) Define GOS.

g) What is average occupancy of telecomm system explain.

h) Explain segregation.

i) Define blocking probability.

j) A three stage structure accommodates 128 input and 128 outputs terminals. For the first 16 stages and 16 last stages determine the number of cross points for non blocking with neat diagram.

SECTION – B

2. Attempt any five parts of the following question: **5 x 10 = 50**

a) Derive blocking probability for a tree stage network using Lee graph. Write difference between lee graph and jacoubeus.

b) Explain birth- death process. During a busy hour 1200 calls were offered to the group of trunk and 6 call were lost. The average call duration was 2 minutes. Calculate traffic offered, traffic carried, traffic lost, GOS, total duration for periods of congestion.

c) Explain common channel signalling with SS7 architecture.

d) Derive and explain erlang B formula and compare it with erlang C formula.

e) Briefly explain the operation of ATM switch. Give the function of VPI and VCI

f) Explain the concept of centralized SPC and distributed SPC.

g) What are the various soft wares used for SPC working.

h) Explain the memory space memory switch. Draw 8×8 banyan switch network.

SECTION – C

Attempt any two questions of the following: **2 x 15 = 30**

3. Write short note on:

(i) Reed-relay Switck.

(ii) General trunking diagram.

4. Explain Markov Process with example. A subscriber makes 4 phone calls of duration 5M, 2M and 4Min one hour period. Calculate traffic in Eralang, CS, CCS and CM.

5. Explain X.25, frame relay and SS6 architecture.

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