

**EIGHTH SEMESTER B.TECH. (ENGINEERING) DEGREE
EXAMINATION, MAY 2011**

EC 04 803—COMMUNICATION SWITCHING SYSTEMS

Time : Three Hours

Maximum : 100 Marks

Answer all questions.

- I. (a) Name the two different approaches of organising stored program control ? State the major differences between the two methods.
- (b) State the principle of Time division switching.
- (c) What is meant by :
- (i) blocking network.
 - (ii) full connectivity.
- (d) Explain the principle of TSIC Time slot Interchange.
- (e) A subscriber makes three phone calls of three minutes, four minutes, and *two* minutes duration in a one hour period. Calculate the subscriber traffic in erlangs, and in CCS.
- (f) Differentiate between the loss system and delay system.
- (g) What are the two major classes of signalling techniques ? Also specify different types of signalling techniques exist in each of these two classes ?
- (h) What are self routing switches ? Explain.
- (8 × 5 = 40 marks)
- II. (a) Draw the schematic representation of Time multiplexed space switch and explain its operation.
- (15 marks)
- Or*
- (b) With the help of diagram explain the operation of two stage TS Switch (Time Space Switch) and two stage ST (Space - Time) Switch.
- (15 marks)
- III. (a) Discuss about DMS-100 switching system.
- (15 marks)
- Or*
- (b) For a $N \times N$ three stage switching network derive the expression for its blocking probability, P_B .
- (15 marks)

Turn over



IV. (a) Discuss in detail about :

- (i) Lost calls returned system. (8 marks)
- (ii) Lost calls held system. (7 marks)

Or

(b) Explain the following : —

- (i) Grade of service. (6 marks)
- (ii) Blocking Probability. (6 marks)
- (iii) Traffic Intensity. (3 marks)

V. (a) (i) Compare in Channel signalling and common channel signalling. (8 marks)

(ii) Discuss about ATM routers. (7 marks)

Or

(b) Write notes on :

- (i) PCM signalling. (7 marks)
- (ii) Common channel signalling principle. (8 marks)

[4 × 15 = 60 marks]