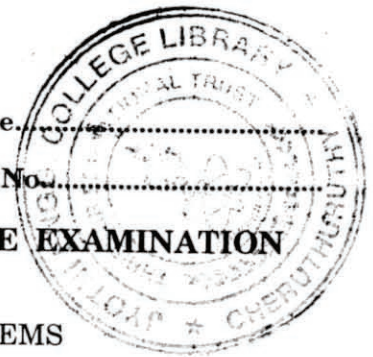


C 44787

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Name.....

Reg. No.....



**EIGHTH SEMESTER B.TECH. (ENGINEERING) DEGREE EXAMINATION  
JUNE 2013**

EC 04 803—COMMUNICATION SWITCHING SYSTEMS

Time : Three Hours

Maximum : 100 Marks

*Answer all questions.  
Each question carries 5 marks.*

- I. (a) What are the major components of a switching system ?  
(b) List the advantages of stored program control.  
(c) Compare blocking and non-blocking switches.  
(d) Draw the Lee's graph for a three stage network.  
(e) Define :  
    (i) Call completion rate.  
    (ii) Traffic intensity.  
(f) An exchange serves 1000 subscribers. If the average busy hour call attempts is 5,000 and the call completion rate is 60%. Calculate the busy hour calling rate.  
(g) Name the possible signalling types that can be used for voice frequency (VF) signalling.  
(h) Discuss briefly about self routing switches.

(8 × 5 = 40 marks)

*Answer all questions.  
Each question carries 15 marks.*

- II. (a) Draw the block diagram of a centralised Stored Program Control (SPC) organization and explain the function of each block.

(15 marks)

*Or*

- (b) Discuss about :

(i) Time-space-time switch.

(8 marks)

(ii) Space-time-space switch.

(7 marks)

- III. (a) Draw the block schematic of  $N \times N$  three stage switching network and explain how it help to reduce the blocking probability and the number of switch elements compared to a two stage network.

(15 marks)

*Or*

- (b) Discuss about DMS 100 switching system.

(15 marks)

Turn over

IV. (a) What is a delay system ? Explain how a delayed system can be analysed using queuing theory ?

(15 marks)

*Or*

(b) (i) Write notes on :

Grade of service and blocking probability.

(8 marks)

(ii) In a telephone system, there are 20 servers and 100 subscribers. In an average, there are 10 busy servers at any time. The probability of all the servers being busy is 0.2. Calculate the grade of service for Erlang traffic and for Engest traffic.

(7 marks)

V. (a) (i) Compare Inchannel and common channel signalling.

(10 marks)

(ii) What are inslot and outslot signalling ?

(5 marks)

*Or*

(b) Explain in detail about ATM routers.

(15 marks)

[4 × 15 = 60 marks]