Roll No. .....

22153

M.E. 2nd Semester (E.C.E.)
(Elective-II)

Examination–May, 2014

SWITCHING SYSTEMS

Paper- MEEC-512

Time : 3 hours ***Max. Marks : 100***

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard will be entertained after the examination.

Note : Attempt any **five** questions out of given eight.

1. (a) A fully connected n/w supports full duplex communication using unidirectional links. Show that the total number of links in such a n/w with n nodes, is given by $2 \times {}^{n}C_{2}$. *10*

(b) How are switching systems classified ? How is stored program control superior to hard wired control ? *10*

2. (a) What is the significance of side tone in telephone conversation ? *5*

(b) What is the significance of (S/N) ratio being $\rightarrow$3dB ? *5*

(c) What is the concept of statistical band with sharing ? *5*

(d) In a 100-line folded network, how many scratching elements are squired for non-blocking operation ? *5*

3. (a) Explain the concept of SPC switching. *10*

(b) A busy tone does not imply that called party is actually engaged in a conversation. Explain. *10*

4. (a) What are the basic approaches to the designs of subscriber access to Strowger systems ? Describe them. *10*

(b) "Numbering plan in a telephone network must be independent of call routing"? Why ? Explain. *10*

5. (a) During a 2-hour busy period, 2400calls arrive at an exchange. Average holding time per call is two minutes. What is the traffic load in (i) Erlangs (ii) CCS. *10*

(b) Differentiate between Markov and semi-Markov processes used for representation of traffic. *10*

6. (a) Calls arrive at a tandem exchange with R trunks at the rate of v^1. If the calls are distributed to each trunk with probabilities P_1, P_2 ----, P_R, What is the request arrival rate at each trun ?. *10*

(b) What is blocking probability ? How it is calculated ? *10*

7. (a) Explain what are data networks and protocols ? *10*

(b) What are current trends in digital switching systems ? Explain. *10*

8. Write short notes on :

(a) ISDN 10

(b) Intelligent Networks. 10
