2011

M.Sc.

3rd Semester Examination

ELECTRONICS

PAPER—ELC-306

(PRACTICAL)

Full Marks : 50

Time : 3 Hours

The figures in the right-hand margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

(Electronics and Optical Communication)

Answer any *one* question.

1. Design a circuit using IC OTA 3080 to generate amplitude modulated signal.

Apply modulating signal of three different amplitude but same frequency. Calculate modulation index for each amplitude of the modulating signal.

Draw a graph to show the variation of modulation index with base band signal amplitude.

2. Design a circuit on a bread board using IC 8038 t generate frequency modulation of the signal.

   Test the performance of your circuit using a CR calculate frequency deviation and hence find out th modulation index.

3. Implement a circuit on a bread board using a transisto to generate Pulse Amplitude Modulation (PAM). Observ the PAM output using a CRO. Repeat this for two carrie signal frequency and two modulating signal amplitudes

4. Design and Implement a circuit to generate Pulse Widt Modulation using IC555. Record the pulse width of eac pulse and the corresponding amplitude of the modulatin signal for two different modulating frequencies. For eac case plot modulating signal amplitude VS pulse width o the PAM output.

5. Design a circuit for generating DSB-SC signal usin diodes. Test the operation of your circuit on a CRO an calculate modulation index for different carrie amplitudes. Take at least three carrier amplitude.

6. Design and implement a DSBSC modulator using IC 149 Test the operation of your circuit in a CRO and calculat modulation index.

Show the variation of modulation index with base band signal amplitude .

7. Design an envelope detector demodulator circuit for A.M signal. Record the observations of input and output signals for three different modulation. (Implement an AM modulator before demodulation)

Distribution of Marks

Theory	:	05 Marks
Circuit	:	10 Marks
Experiment	:	20 Marks
Result & Discussions	:	05 Marks
Viva-voce	:	05 Marks
Laboratory note book	:	05 Marks
Total	:	50 Marks