

M.Sc. 3rd Semester Examination, 2009

ELECTRONICS

(Electronic and Optical Communication)

PAPER—EL-2112

(Practical)

Full Marks : 50

Time : 3 hours

Answer any **one** question

Marks Distribution :

Theory	: 05
Circuit	: 10
Experiment	: 20
Result & Discussion	: 05
Viva-voce	: 05
L. N. B.	: <u>05</u>
Total	: 50

1. Design an AM circuit using OTA3080 IC. Test its operation and plot a graph for different values of modulating signal amplitude vs. modulation index.

(Turn Over)

2. Design a circuit for generating DSB-SC signal. Test its operation and observe the phase reversal in the DSB-SC output signal for two different carrier frequency signal.
3. Design an AM-demodulation circuit using an envelope detector. Plot the demodulated waveform for 50% and 75% modulation. (AM circuit will be supplied).
4. Design a circuit for generating FM signal. Test its operation with the help of a CRO and calculate the frequency deviation and modulation index.
5. Design a circuit to generate PAM signal and also design another circuit to demodulate the PAM signal as produced in the former circuit. Plot the relevant waveforms.
6. Design a PWM circuit and plot a graph of signal voltage vs. pulse width for two different carrier frequencies.