

Department of Technical Education
DIPLOMA COURSE IN ELECTRONICS AND COMMUNICATION ENGINEERING
Third semester
Subject : Analog Electronic Circuits Lab

Contact Hrs/Week : 6

Contact Hrs/Sem :96

GENERAL EDUCATIONAL OBJECTIVES :

After the completion of this laboratory , the student should be able to

1. Draw the circuit diagrams of regulated power supply, amplifiers, oscillators, OPAMP as Summer, Integrator, Differentiator, waveform Generator, Regulator, Timer; Application and familiarization of few special ICS and Assemble above circuits
- 2 Test the above circuits for their performance
- 3 Analyses the above circuits

GRADED EXCERCISES

- 01 Construction of Bridge rectifier with C Filter and without filter using
i) Discrete diodes ii) Bridge Rectifier Module
- 02 Construction and testing of power supply ($\pm 12V$) for OPAMP using 7812 ,7912 & centre-tap transformer in a single circuit and test for load regulation
- 03 Construction and testing of variable voltage regulator using LM 317 and test Line and Load regulation
- 04 Construction of HIGH and LOW voltage regulator using LM 723 and test Line and Load regulation
- 05 Construction of voltage divider biased single stage RC coupled CE amplifier and plot frequency response .
- 06 Construction of single stage FET amplifier and plot frequency response.
- 07 Construction and testing of class B push-pull amplifier.
- 08 Study of data sheet of LM 741 OPAMP
- 09 Construction and testing of following OPAMP circuits

- i) Inverting and non inverting amplifier
 - ii) Precision Full wave rectifier
 - iii) Summing and Difference amplifier
 - iv) Voltage Follower.
- 10 Construction and testing of following OPAMP circuits
- i) Differentiator & integrator
 - ii) Comparator
 - iii) Zero cross detector
- 11 Construction and testing of following OPAMP circuits
- i) Triangle wave generator
 - ii) Schmitt trigger
- 12 Construction and testing of following OPAMP circuits
- i) RC phase shift oscillator
 - ii) Wein bridge oscillator
 - iii) Crystal oscillator
- 13 Construction and testing of 555 TIMER as
- i) Astable multivibrator
 - ii) Monostable multivibrator
- 14 Construction and testing of LM 384 power amplifier
- 15 Construction and testing of frequency multiplier using IC 565
- 16 Construction and testing of voltage to frequency converter using IC 566
- 18 Tests.

SCHEME OF EVALUATION		
1	Lab record	05
2	Drawing circuit diagram (two)	30
3	Conduction (one)	30
4	Results	15
5	Viva-voce	20
	Total	100

**Reference : ELECTRONICS LABORATORY PRIMER
- S.POORNA CHANDRA AND B.SASIKALA
(S.CHAND AND COMPANY LTD)**

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Subject : ANALOG ELECTRONICS LAB

LIST OF EQUIPMENTS REQUIRED FOR A BATCH OF 20 STUDENTS

SL NO	NAME OF THE EQUIPMENTS	SPECIFICATIONS	QUANTITY
01	VARIABLE DC REGULATED POWER SUPPLY (DUAL)	0-30 V, 2A	10 NOS
02	DUAL CHANNEL CRO	25 MHZ	10 NOS
03	FUNCTION GENERATOR	0-10 MHZ	10 NOS
04	SIGNAL GENERATORS	0-1 MHZ	10 NOS
05	OPAMP POWER SUPPLY	± 12V,1A	10 NOS
06	LINEAR/ANALOG TRAINER KITS WITH BUILT IN POWER SUPPLY AND BREAD BOARD		10 NOS
07	DIGITAL MULTIMETERS		10 NOS