2022

1st Semester Examination

ELECTRONICS

Paper : ELC 196

(Analog Electronics Laboratory)

(Practical)

Full Marks : 50 Time : Three Hours

The figures in the margin indicate full marks.
Candidates are required to give their answers in their own words as far as practicable.

Answer any *one* question from the followings.
Question will be selected by a lucky draw.

1. Design and implement a first order active Low Pass Filter (LPF) of cut off frequency ... and gain ... (to be supplied during examination). Study frequency response. Find cut off frequency.

P.T.O.

2. Design and implement a first order active High Pass Filter (HPF) with cut off frequency ... and gain ... (to be supplied during examination). Study frequency response. Find cut off frequency.

3. Design and implement a second order active Low Pass Filter (LPF) of cut off frequency ... and gain ... (to be supplied during examination). Study frequency response. Find cut off frequency.

4. Design and implement a second order active High Pass Filter (HPF) of cut off frequency ... and gain ... (to be supplied during examination). Study frequency response. Find cut off frequency.

5. Design and implement a regulated power supply of ... volt and ... mA current (to be supplied during examination) using power transistor as pass transistor. Find load and line regulation.

6. Design and implement an integrator circuit using OP-AMP and find the transfer characteristic curve.

7. Design and implement a differentiator circuit using OP-AMP and find the transfer characteristic curve.

8. Design and implement a R-C phase shift oscillator of frequency ... (to be supplied during examination).

9. Design and implement a regulated power supply of ... volt and ... mA current (to be supplied during examination) using power transistor as pass transistor and OP-AMP as comparator. Find load and line regulation.

10. Design and implement a variable regulated power supply using LM 317. Find line and load regulation at two different voltages.

P.T.O.

11. Design and implement a self biased transistor circuit. Find V_{BE}, V_{CE}, V_{CB}, I_C, I_B, I_E at Q point.

12. Design and implement a first order passive Low Pass Filter (LPF) of cut off frequency ... (to be supplied during examination). Study frequency response. Find cut off frequency.

13. Design and implement a first order passive High Pass Filter (HPF) of cut off frequency ... (to be supplied during examination). Study frequency response. Find cut off frequency.

Distribution of Marks :

Circuit design	:	10 Marks
Implementation	:	15 Marks
Record of data	:	10 Marks
Viva-voce	:	10 Marks
Laboratory note book	:	05 Marks
Total	**:**	**50 Marks**