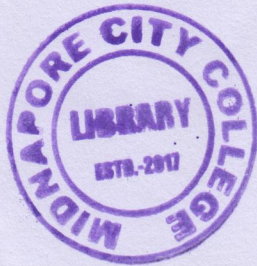


Acc No. SP11



M.SC-CBCS/IS/PHS/105/17 (Pr.)

2017

PHYSICS

(Electronics Practical)

(Practical)

[M.SC]

(CBCS)

PAPER-105

Full Marks: 50

Time-3.hours

The questions are of equal value

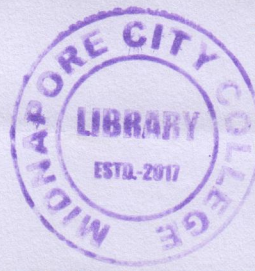
[Exp. :-35, LNB. :-5, V.V. :-10,]

End semester examination

Theory /working formula -----	5
Circuit diagram and design of circuit-----	5
Implementation-----	4
Data recording-----	10
Drawing the graphs and calculations-----	7
Accuracy -----	4

Each question is to be performed one experimental within the scheduled time.

1. Design a LC filter circuit having specified cut-off frequency and study the frequency response characteristics draw the frequency response curve and find the cut-off frequency and compare with theoretical value?



2. Implement a circuit to study the drain and transfer characteristics of a FET and find out the drain resistance, mutual conductance and amplification factor of the FET?
3. Design and construct a regulated power supply using OP-AMP as comparator and power –transistor as pass element for specified output voltage. Study its load regulation characteristic?
4. Design and implement a JK/MS flip-flop using NAND gates only and verify its truth table?
5. Implement on inverting OP-AMP circuit for a particular gain (to be specified by the examiners) and study its linearity and frequency response characteristics. Find out its band width?
6. Implement a Non-Inverting OP-AMP circuit for a particular gain (to be specified by the examiners) and study its linearity and frequency response characteristics. Find out its band width?
7. Study a step down transformer and measure of it's the following parameters
 - 1) Primary inductance
 - 2) Secondary inductance
 - 3) Mutual inductance
 - 4) Turn ratio
 - 5) Coupling constant