PG (NEW) CBCS
M.Sc. Semester-I Examination, 2018
PHYSICS
PAPER: PHS-195
(PRACTICAL)

Full Marks: 50 **Time: 3 Hours**

PHS 195: ELECTRONICS PRACTICAL –I

The questions are of Equal Value

[Experiment: 35, LNB: 5, Viva Voce: 10]

Theory/working formula ……..5

Circuit diagram and design of the circuit ……5

Implementation ……4

Data recording ……10

Drawing the graphs and calculations ……7

Accuracy ……4

1. Design a LC filter circuit having different cut-off frequency of 10 KHz and also find out cut-off frequency from the frequency response characteristics.
2. Study the drain characteristics & transfer characteristics (I_D vs V_{gs} with V_{DS} as parameter) of a FET and find out the drain resistance, mutual conductance and amplification factor.
3. Find out the various parameters of a transformer using open circuit and short circuit test.
4. Construct and design a regulated power supply using Op-Amp as comparator and power transistor as pass element and to find out its ripple factor and percentage of regulation.
5. Obtain the frequency response characteristic of an inverting operational amplifier with gain 10 and find out its band width.
6. Obtain the frequency response characteristic of a non-inverting operational amplifier with gain 11 and find out its band width.
7. Design a J-K master slave flip-flop using JK-FFs and verify its truth table.
8. Design and study of 2 bit binary comparator.

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