DEPARTMENT OF SCIENCES

MAHE, Manipal

Department of Physics, MIT, Manipal - 576 104

FIRST SEMESTER M. Sc (Physics)
END SEMESTER EXAMINATION-OCT/ NOV 2019
PHY 4111: PHYSICS LAB- II

Time: 3 hrs. **Max. Marks: 40**

Note: Perform one experiment assigned to you. Write the formula with the explanation of symbols, their units, circuit /ray diagrams if any, tabular columns, qualitative plot of graphs of the experiment allotted to you in the first 20 minutes. Perform the experiment showing at least one reading of each measurement and report the result.

1. Construct and study (i) Differentiator (ii) Integrator circuit using OPAMP.
2. Construct (a) square wave generator (b) triangular wave generator using OPAMP.
3. Design and construct a Wein-Bridge oscillator using OPAMP and study its output waveform and frequency for various RC values.
4. Design and study monostable and astable multivibrator using IC555 Timer.
5. Design and study active filters using OPAMP – high pass, low pass and band pass.
6. Study JFET output characteristics and transconductance curve.
7. Design and construct RC-coupled amplifier and study its frequency response. Construct Phase shift oscillator using BJT.
8. Study UJT characteristics. Construct & study relaxation oscillator using UJT.
9. Construct clipping [positive and biased negative in series; negative and biased positive in parallel and clamping [positive and biased negative] circuits using diodes and study the variation of output amplitude and waveform using CRO.
10. Measure the phase difference between two signals and study the I-V characteristics of diodes using CRO

Dr. Raviprakash Y & Dr. Ashwatha Narayana Prabhu
Lab In charge Teacher

Dr. Mohan Rao K
HOD Physics, MIT