ST.JOSEPH'S COLLEGE FOR WOMEN (AUTONOMOUS), VISAKHAPATNAM

VII SEMESTER **PHYSICS** TIME:3Hrs/week

PH 7455(4) **Analog and Digital Electronics - Practical** Max.Marks:100

w.e.f. 20AH Batch **SYLLABUS**

Course Objectives:

- *To equip, students with experimental skills, by applying the learnt concepts from Analog and Digital Electronics.*

Course Outcomes:

Upon the successful completion of this practical course, students will be able to:

- *CO1: Study the FET Characteristics and determine the respective parameters.*
- *CO2: Study the UJT Characteristics and determine and determent the respective parameters.*
- *CO3: Design A stable Multivibrator using 555-Timer and determine the frequency of oscillation and duty cycle.*
- *CO4: Determine the resonant frequency of oscillation of a Wien's Bridge Oscillator using Op-Amp.*
- *CO5: Study the characteristics of operational amplifier and determine the following parameters (a) Input offset voltage, (b) Input bias current, (c) CMRR*
- *(d) Slew rate.*
- *CO6: Study the characteristics of Op-Amp as an integrator, Differentiator & Summation performer*
- *CO8: Design and verify the truth tables of half adder and full adder circuits.*
- *CO9: Design and verify the truth tables of various flip flops circuits (RS,D,JK, T).*

Any six of the following experiments:

List of Experiments:

1. FET Characteristics

2. UJT Characteristics
3. 555-Timer – A stable Multivibrator
4. Wien Bridge Oscillator-using Op-Amp
5. Op-amp parameters

(a) Input offset voltage
(b) Input bias current
(c) CMRR
(d) Slew rate

6. OP-AMP-offset null adjustment-inverting Amplifiers
7. Op-Amp-integration, Differentiation & Summation
8. Design and study of full adder and half adder circuits
9. Design and study of various flip flops circuits (RS, D, JK, T)