UNIVERSITY OF MADRAS

B.Sc. DEGREE PROGRAMME IN PHYSICS

SYLLABUS WITH EFFECT FROM 2023-2024

COURSE	**SIXTH SEMESTER – CORE COURSE PRACTICALS – VI**
COURSETITLE	**ELECTRONICS EXPERIMENTS**
CREDITS	**3**
COURSE OBJECTIVES	To perform basic experiments on characteristics of electronic devices and then get into the applications such as amplifiers, oscillators, counters, multivibrators. Perform fundamental experiments on microprocessor 8085 and learn to write programs by themselves.

(Any TEN Experiments)

1. Zener diode – voltage regulations
2. Bride rectifier using diodes
3. Clipping and clamping circuits using diodes.
4. Characteristics of a transistor –(CE mode)
5. RC coupled CE transistor amplifier - single stage.
6. Transistor Emitter follower.
7. Colpitt's oscillator -transistor.
8. Hartley oscillator - transistor.
9. Astable multivibrator - transistor
10. FET - characteristics.
11. UJT -characteristics
12. AC circuits with L,C,R -Series resonance.
13. Operational amplifier - inverting amplifier and summing
14. Operational amplifier - differentiator & integrator.
15. 5V,IC Regulated power supply
16. Study of gate ICs – NOT,OR,AND, NOR,NAND, XOR, XNOR
17. Verification of De Morgan's theorem using ICs –NOT, OR,AND
18. NAND and NOR as universal building block.
19. Half adder andHalf subtractor using basic logic gate ICs
20. Microprocessor 8085 – addition and subtraction (8 bit only)
21. Microprocessor 8085 – largest and smallest of numbers (8 bit only