RS 66187

## THREE YEAR B.Sc. (CBCS) DEGREE EXAMINATION, JUNE/JULY 2023

## SIXTH SEMESTER

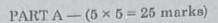
Physics (WM)

## PAPER -VII: ANALOG AND DIGITAL ELECTRONICS

(w.e.f. 2015-16 Admitted Batch)

Time: Three hours

Maximum: 75 marks



Answer any FIVE questions.

- 1. Explain the advantages of FET over BJT.
- 2. Explain the drain the transfer characteristics of MOSFET.
- 3. Explain ideal Op-Amp Characteristics.
- 4. Explain the internal blocks of Op-Amp and mention its parameters.
- 5. Explain the Op-Amp as Inverting amplifier.
- 6. Explain the Op-Amp as summing amplifier.
- 7. Explain the pin diagram of 555 Timer.
- 8. Explain 555 timer as Astable Multivibrator.
- 9. Explain the construction and working of RS FF.
- 10. Explain the conversion of Flip flops

PART B — 
$$(5 \times 10 = 50 \text{ marks})$$

Answer ALL questions.

11. Explain the construction and working and characteristics of FET.

(Or)

- 12. Explain the construction and working of enhancement MOSFET.
  - 13. Explain the CMRR and Slew rate and offset voltages and currents of Op-Amp.

(Or)

14. Draw the circuit and Explain the basic differential amplifier.

4,5

15. Explain the Op-Amp as Integrator and Differentiator.

(Or)

- 16. Explain the difference amplifier and the summing amplifier using Op-Amp.
- 17. Explain the 555 timer as monostable multivibrator.

(Or)

- 18. Explain the applications of 555 astable multivibrator as square wave oscillator.
- 19. Explain the construction and working of D and T FF.

(Or)

20. Explain the construction and working of Clocked RS FF and Master-Slave FF