

S.No. 6966

P 16 PY 13

(For candidates admitted from 2016-2021 Batch)

M.Sc. DEGREE EXAMINATION, NOVEMBER 2023.

PHYSICS

ELECTRONICS

Time : Three hours

Maximum : 75 marks

SECTION – A (10 x 2 = 20)

Answer ALL Questions

1. Write down the properties of a Laser similar to that of monochromatic light and the wavelength range of laser types.
2. Draw the symbols of N-MOSFET and P-MOSFET and write the two basic Key difference of MOSFET from JFET.
3. Define advantages and disadvantages of counter type ADC.
4. Draw the block diagram of Phase Locked Loop (PLL).
5. Explain the features and applications of BCD to decimal decoder.
6. Is SR flip-flop and RS flip-flop are very same?
7. Draw the wave form timing diagram of 4 bit synchronous counter.
8. Draw the block diagram and truth table of 1X4 demultiplexer.
9. Define diffusion current.
10. Distinguish the terms astable , monostable and bistable operations.

SECTION – B (5 x 5 = 25)

Answer ALL Questions, choosing either 'a' or 'b'

- 11.a) Explain the Depletion Mode of MOSFET?
(or)
b) Explain about tunnel diode working and its application.
- 12.a) Difference between sawtooth wave and the Triangular wave.
(or)
b) Write on successive approximation A/D convertor.
- 13.a) Explain RS and D flip flop.

(or)

- b) Report the BCD to 7 segment decoder.

- 14.a) Elaborately explain Multiplexers.

(or)

- b) Discuss about Up/Down counters.

- 15.a) Draw and discuss about the capacitors.

(or)

- b) Explain applications of Monostable operations.

SECTION – C (3 x 10 = 30)

Answer any THREE Questions

- 16. Demonstrate Uni-Junction Transistor as a Relaxation Oscillator.
- 17. Write a brief note on weighted resistor D/A convertor and its disadvantages.
- 18. Brief note on Schmitt trigger.
- 19. Write a difference between synchronous and Asynchronous counter.
- 20. Explain in detail about Working of Monostable operation of **555** timer.
