25020198

QP CODE: 25020198

Reg No : .....

Name : .....

B.Sc DEGREE (CBCS)) REGULAR/ IMPROVEMENT/ REAPPEARANCE / MERCY CHANCE EXAMINATIONS, FEBRUARY 2025

Fourth Semester

B.Sc Physics Model I

Complementary Course - EL4CMT04 - ELECTRONICS - DIGITAL ELECTRONICS

2017 Admission Onwards

28A35B52

Time: 3 Hours Max. Marks : 60

Part A

*Answer any **ten** questions.*

*Each question carries **1** mark.*

1. Convert the hexadeimal number 2D5 to decimal.
2. Obtain the canonical product of sum form of the function A+ BC.
3. Draw the logical symbol of NAND gate.
4. Draw the logic diagram of Half adder circuit.
5. What is a decoder circuit?
6. What is Flip fliop?
7. Draw the block diagram of clocked NOR based SR flip flop.
8. What is the disadvantage of level triggering?
9. Draw the circuit of Parallel in Parallel out shift register.
10. What is Python interpreter?
11. Which are the operators in Python?
12. What is Scipy in Python?

(10×1=10)

Part B

*Answer any **six** questions.*

*Each question carries **5** marks.*

13. State and proove principle of duality and Demorgans theorem.
14. Explain Half subtractor circuit.
15. Briefly explain decimal to BCD encoder circuit.
16. Explain Master Slave J K flip flop.
17. Explain 4 bit binary UP-DOWN ripple counter.
18. Explain 4 bit binary synchronous counter.
19. Explain ring counter.
20. Explain weighted resistor DAC.
21. Explain counter type ADC circuit.

(6×5=30)

Part C

*Answer any **two** questions.*

*Each question carries **10** marks.*

22. Simplify the Boolean Expression Y = m1 +m5 +m7 +m8 +m10 using K map? Also write the different rules of K map?
23. Implement AND gate,OR gate and NOT gate using Universal Gates.
24. Explain the working of (i) JK Flip Flopand (i)T Flip Flop.
25. Explain the working of R-2R Ladder Dac in detail.

(2×10=20)