



K24U 1690

Reg. No. :

Name :

Second Semester B.C.A. Degree (CBCSS – OBE – Regular/Supplementary/
Improvement) Examination, April 2024
(2019 Admission Onwards)
Core Course
2B02BCA : DIGITAL SYSTEMS

Time : 3 Hours

Max. Marks : 40

PART – A
(Short Answer)

Answer **all** questions. **Each** question carries 1 mark.

(6×1=6)

1. Expand the term ASCII.
2. What is the 2's complement of 1101101_2 ?
3. State De Morgan's Law.
4. Mention names of Universal gates.
5. If input to D flip flop is 1, output produced will be _____
6. _____ is a volatile memory.

PART – B
(Short Essay)

Answer **any 6** questions. **Each** question carries 2 marks.

(6×2=12)

7. Perform binary addition on numbers 110110 and 101010.
8. Convert the following :
 - a) $110110101_2 = ?_8$
 - b) $1024_{10} = ?_{16}$

P.T.O.

K24U 1690



9. Write note on multiplexer.
10. Write note on AND gate.
11. Mention any 4 rules and laws of Boolean algebra.
12. Write truth table of half adder.
13. What is a shift register ?
14. Write features of PROM.

PART – C
(Essay)

Answer any 4 questions. Each question carries 3 marks.

(4×3=12)

15. Briefly explain BCD code.
16. Write note on encoders.
17. Compare SOP and POS expressions.
18. Short note on parallel binary adder.
19. Explain any two edge triggered flip flops.
20. What do you mean by flash memory ?

PART – D
(Long Essay)

Answer any 2 questions. Each question carries 5 marks.

(2×5=10)

21. Simplify using K-map $Y = A'B'C'D' + A'B'CD' + A'BCD' + A'BCD + AB'C'D' + ABCD' + ABCD$.
 22. Explain parity generator/checker in detail.
 23. Describe various shift registers in detail.
 24. Explain synchronous counters in detail.
-