DCCA201

Reg. No.

II Semester B.C.A. Degree Examination, September - 2023
COMPUTER SCIENCE
Computer Architecture
(NEP Scheme)

Time : 2½ Hours

Maximum Marks : 60

Instructions to Candidates:

Answer all the sections.

SECTION - A

Answer any **FOUR** questions out of the following. Each question carries two marks.(4×2=8)

1. Write the symbol and truth table for NOR gate.

2. Convert $(0111)_2$ to excess 3 code.

3. Define flip flop. Mention its types.

4. Define operation code and operand.

5. Write any four micro operations.

6. Define RISC and CISC.

SECTION - B

Answer any **FOUR** questions out of the following. Each question carries **five** marks.

(4×5=20)

7. Explain NAND and EX-OR gate with logic symbol and truth table.

8. Explain the working of S-R flip flop with a neat diagram.

9. Explain the types of computer instructions based on number of address.

10. With a neat diagram explain the working of full adder.

11. Explain I/O interface unit with a neat diagram.

SECTION - C

Answer any **FOUR** questions out of the following. Each question carries **Eight** marks.

(4×8=32)

12. a. State and prove De Morgan's theorem. (4)

[P.T.O.

b.   Explain Encoder with logic diagram.   (4)

13. a.   Explain Von-Neumann architecture.   (4)

b.   With a neat How chart explain interrupt cycle?   (4)

14. a.   What are the types of binary codes?   (4)

b.   Simplify the following using K-Map

$$F(A,B,C,D) = \sum m(0,2,3,4,6,8,9,13) + \sum d(7,10,12).$$ (4)

15. a.   Explain any five addressing modes.   (5)

b.   Explain the basic computer registers.   (3)

16. a.   Explain Arithmetic micro operation with example.   (4)

b.   Write a note on RAID.   (4)

17. Write short notes on

a.   Classification of memories.   (4)

b.   MIMD.   (4)

_____