D 10590 (Pages : 2) Name.....

Reg. No.....

FIFTH SEMESTER U.G. DEGREE EXAMINATION, NOVEMBER 2021

(CBCSS—UG)

Computer Science

BCS 5B 07—COMPUTER ORGANIZATION AND ARCHITECTURE

(2019 Admissions)

Time : Two Hours Maximum : 60 Marks

Section A

Answer at least **eight** *questions.*
Each question carries 3 *marks.*
All questions can be attended.
Overall Ceiling 24.

1. How do you represent positive and negative logic ?
2. What are the characteristics of an AND gate ? Explain the operation of an AND gate with logic diagram and Truth Table.
3. Draw the circuit diagram to show how a NAND gate can be used as a NOT gate.
4. Differentiate between the combinational circuits and sequential circuits.
5. Differentiate between an SR flip-flop and an SR latch.
6. What is a shift register ?
7. Explain various phases in the instruction cycle of a basic computer.
8. What is control memory ?
9. Describe in detail cache memory.
10. List out various data transfer modes in IO module.
11. Explain strobe and handshaking in detail.
12. Define Hit ratio.

(8 × 3 = 24 marks)

Turn over

Section B

Answer at least **five** *questions.*
Each question carries 5 *marks.*
All questions can be attended.
Overall Ceiling 25.

13. What are universal gates ? Why they are so called ? Explain with example.
14. Explain in detail, clock signals and triggering in sequential logic circuits.
15. What is counter ? Explain synchronous counters with necessary diagram.
16. Describe in detail Input-output configuration of a basic computer.
17. Describe in detail basic computer instruction formats with example.
18. Describe various addressing modes.
19. Explain IO Bus and Interface module in detail.

(5 × 5 = 25 marks)

Section C

Answer any **one** *question.*
The question carries 11 *marks.*

20. What is combinational circuits? Explain any *five* with diagram and truth table.
21. Explain the organization of a micro programmed computer with a block diagram.

(1 × 11 = 11 marks)