D 90096 (Pages : 2) Name.....

Reg. No.....

FIFTH SEMESTER B.A./B.Sc. DEGREE EXAMINATION NOVEMBER 2020

(CUCBCSS—UG)

B.C.A.

BCA 5B 11—COMPUTER ORGANIZATION AND ARCHITECTURE

(2014 Admissions)

Time : Three Hours Maximum : 80 Marks

Part A

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

1. The most basic parts of an instruction code are ——— and ———.
2. The timing for all registers in the basic computer is controlled by ——— generator.
3. A memory that is part of a control unit is referred to as ———.
4. ——— specify the way the operands are chosen during program execution.
5. The I/O processors are responsible for the direct communication between main memory and ———.
6. A memory unit accessed by content is called ———.
7. A special component between CPU and peripherals to supervise and synchronize all input and output transfers is called ———.
8. The two handshaking lines are data valid and ———.
9. CISC stands for ———.
10. ——— is the technique of decomposing a sequential process into sub operations and operate concurrently.

(10 × 1 = 10 marks)

Part B

Answer **all** *questions.*
Each question carries 2 *marks.*

11. What is instruction fetch and decode ?
12. What are RISC instructions ?

13. What is write-through method in cache organization ?
14. What is priority interrupt ?
15. What is speedup of a pipeline processing ?

(5 × 2 = 10 marks)

Part C

Answer any **five** *questions.*
Each question carries 4 *marks.*

16. Explain any *four* important registers in the basic computer.
17. Discuss basic computer instruction formats with example.
18. What is the significance of control word in register organization ?
19. What are two address instructions? Illustrate with example.
20. What is memory hierarchy ? Explain.
21. What is auxiliary storage ? Briefly explain various magnetic storage devices.
22. What is strobe control in asynchronous data transfer ?
23. Explain SIMD architecture with neat diagram.

(5 × 4 = 20 marks)

Part D

Answer any **five** *questions.*
Each question carries 8 *marks.*

24. What are the major types of control organization in a microprocessor ? Explain.
25. Explain the design of accumulator logic with neat diagram.
26. What is address sequencing ? Explain.
27. Explain the program control instructions with the help of the status register organization.
28. What is ROM organization? Discuss various types of ROM chips.
29. Compare the address space with memory space. Explain the address mapping technique in virtual memory organization.
30. What is direct memory access (DMA) ? Explain the DMA transfer with neat diagram.
31. What is vector processing ? Discuss the vector operations with example.

(5 × 8 = 40 marks)