D 10102   (Pages : 2)   Name...

Reg. No.....................................

FIFTH SEMESTER U.G. DEGREE EXAMINATION, NOVEMBER 2021

(CUCBCSS—UG)

BCA

BCA 5B 08—COMPUTER ORGANISATION AND ARCHITECTURE

(2017 Admissions)

Time : Three Hours   Maximum : 80 Marks

Part A

Write short answer on **all** *questions.*
Each question carries 1 *mark.*

1. What is a register ?

2. What is a NOT gate ?

3. Name *two* universal gates.

4. What is negative logic ?

5. What is the feature of an asynchronous counter ?

6. What do you mean by an instruction code ?

7. What is the purpose of a micro program sequencer ?

8. What is the use of DMA ?

9. What do you mean by priority interrupt ?

10. What is hardwired control ?

(10 × 1=10 marks)

Part B

Write a paragraph on **all** *questions.*
Each question carries 2 *marks.*

11. What is a logic gate ?

12. What is a ripple carry adder ?

13. Mention *four* types of shift registers.

14. Why decade counter is called so ?

Turn over

15. What is the use of IR and TR registers ?

16. What do you mean by virtual memory ?

17. What is the disadvantage of strobe method in asynchronous data transfer ?

18. What do you mean by cache hit ratio ?

(8 × 2 =16 marks)

Part C

Write short essay on any **six** *questions.*
Each question carries 4 *marks.*

19. Explain the NAND gate with logic design and truth tables.

20. Explain decoders with block diagram and truth table.

21. Explain the concept of full adder.

22. Explain the concept of de-multiplexers.

23. Explain with block diagram, the concept of T flip flop.

24. Explain various memory reference instructions.

25. Explain three-address and two-address instruction formats.

26. Explain the organization of a memory stack.

27. What are the differences between a central computer and a peripheral device ?

(6 × 4 = 24 marks)

Part D

Write essays on any **three** *questions.*
Each question carries 10 *marks.*

28. Explain half subtractor and full subtractor with block diagrams and truth tables.

29. Explain in detail the D flip-flop.

30. Explain with concept and working of Ring counter.

31. Explain various addressing modes with syntax and examples.

32. Explain the design of accumulator logic.

(3 × 10 = 30 marks)