17U564 (Pages: 2) Name: ……..

Reg. No……...…….

FIFTH SEMESTER B.C.A. DEGREE EXAMINATION, NOVEMBER 2019

(CUCBCSS-UG)

CC17U BCA5 B08 - COMPUTER ORGANIZATION AND ARCHITECTURE

(Core Course)

(2017 Admission Regular)

Time: Three Hours Maximum: 80 Marks

PART A

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

1. What is decoder?
2. What is the use of a multiplexer?
3. What is flip-flop?
4. Define RAM.
5. What is the purpose of micro program sequencer?
6. What is meant by handshaking?
7. What is delayed branch?
8. What is cache miss?
9. What is the use of IN instruction?
10. Define peripheral devices with two examples.

(10 x 1 = 10 Marks)

PART B

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

11. Draw the block diagram and truth table of full adder circuit.
12. Write the differences between Synchronous and Asynchronous counters.
13. What are the important differences between RAM and content addressable memory?
14. What are the basic register reference instructions?
15. What are the two methods to design a control unit?
16. What is interrupt? Write down two advantages of interrupt.
17. Write a short note on Input-Output Processor.
18. What is the use of strobe control in asynchronous data transfer?

(8 x 2 = 16 Marks)

PART C

Answer any s***ix*** questions. Each question carries 4 marks.

19. What are the different types of instruction formats?
20. Describe briefly about look-ahead carry adders with block diagram.
21. Explain serial in – serial out shift registers.
22. Briefly explain about instruction cycle.
23. Explain data transfer and manipulation instructions with examples.
24. Briefly describe about virtual memory.
25. Describe about memory transfer instructions with examples.
26. Draw circuit diagram and truth table of a multiplexer and write it's applications.
27. Differentiate between edge triggering and pulse triggering.

(6 x 4 = 24 Marks)

PART D

Answer any ***three*** questions. Each question carries 10 marks.

28. Describe in detail about mod N counter, Ring counter and Johnson's counter.
29. (a) Differentiate between encoder and decoder.
    (b) Explain a BCD to 7-segment decoder with a neat block diagram.
30. Explain about Cache memory and various mapping techniques associated with Cache.
31. (a) Write the need of addressing modes. Explain various addressing modes supported by a general purpose CPU.
    (b) Write a short note on control memory and micro programmed control unit.
32. (a) Discuss about various interrupts.
    (b) Explain daisy chaining process of prioritizing interrupts.

(3 × 10 = 30 Marks)

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