17U567 (Pages: 2) Name: ……..

Reg. No……...…….

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

(Supplementary/Improvement)

(CUCBCSS-UG)

CC15U BCA5 B11 - COMPUTER ORGANIZATION AND ARCHITECTURE

(Core Course)

(2015 & 2016 Admissions)

Time: Three Hours Maximum: 80 Marks

Part A

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

1. To get the physical address from the logical address generated by CPU we use ----------
   a) MAR b) MMU c) Overlays d) TLB
2. The decoded instruction is stored in ----------
   a) IR b) PC c) Registers d) MDR
3. What characteristic of RAM makes it not suitable for permanent storage?
   a) Too slow b) unreliable c) it is volatile d) too bulky
4. After the completion of the DMA transfer, the processor is notified by ---------- signal.
5. What is control word?
6. Convert the infix expression into postfix: (A * B + C) / D - E / (F + G)
7. Define hit ratio.
8. Draw the micro instruction code format.
9. What is instruction set completeness?
10. Define address space and memory space.

(10 x 1 = 10 Marks)

Part B

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

11. Explain the role of this instructions: i) BUN ii) BSA iii) ISZ
12. What are zero address instructions?
13. Draw the memory hierarchy.
14. Explain different types of hazards.
15. Explain indirect addressing with an example.

(5 x 2 = 10 Marks)

Part C

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

16. Explain the basic organization of microprogrammed control unit.
17. Explain the Address Translation in Virtual Memory.
18. What is multiprocessor system? Explain the advantages of multi processors over uniprocessors.
19. What is addressing mode? List any four Addressing modes?
20. Draw a flow chart that describes the CPU-I/O channel communication.
21. Differentiate between CISC and RISC.
22. Explain the stack organization.
23. Discuss about floating point representation.

(5 x 4 = 20 Marks)

Part D

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

24. What is computer register? Explain different types of registers used in basic computer.
25. Explain the instruction cycle with help of a flowchart.
26. Explain associative memory.
27. Discuss about asynchronous data transfer.
28. Explain Booth algorithm with the help of an example.
29. Write short note on:
    1) Vector processing 2) interrupts 3)instruction pipeline
30. Explain DMA.
31. What are the ways the cache can be mapped? Explain in detail.

(5 x 8 = 40 Marks)

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