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Avinashilingam Institute for Home Science and Hr Education for Women

(Deemed to be University Estd. u/s 3 of UGC Act 1956, Category 'A' by MHRD)
Re-accredited with 'A++' Grade by NAAC. Recognised by UGC Under Section 12B
Coimbatore - 641 043, Tamil Nadu, India

Continuous Internal Assessment Test II – OCTOBER 2025
I SEMESTER

Class : I UG **Time: 2 hours**
Major : Computer Science **Maximum Marks: 60**

23BCSC02 Computer System Architecture

Course Outcomes:
At the end of the course, students will:

1. Apply Boolean Logic in circuit design with gates and other digital hardwares
2: Distinguish the application of various micro-operations in Register Transfer Language.
3: Handle the various parameters related to instruction execution.
4: Understand the control unit implementation and CPU instruction handling.
5: Appraise the various information storage - retrieval concepts and I/O transfer methods

Part-A **6x1=6**
Choose the correct answer

1. The register causing the computer to read sequential instructions is _____. CO3K1
a. IR b. PC c. Index register d. Data register

2 The key characteristics of Microprogrammed control is _____. CO4K1
a. Expensive b. Complex c. RISC d. Flexibility of adding new instructions

3. In Reverse Polish notation, expression A*B+C*D is written as CO4K2
a. AB*CD*+ b. A*BCD*+ c. AB*CD+* d. A*B*CD+

4. The techniques that move program blocks to or from the physical memory is called as ___. CO5K3
a. Paging b. Virtual Memory Organization c. Overlays d. Framing

5. Memory unit accessed by content is called CO5K2
a. Read only memory b. Programmable Memory c. Virtual Memory d. Associative Memory

6. The method which offers higher speeds of I/O transfers is CO5K2
a. Interrupts b. Memory mapping c. Program-controlled I/O d. DMA

Part- B **3x6=18**
Answer ALL Questions
Each answer should not exceed 400 words or two pages

7. a. Give the list of Memory Reference Instruction. Explain any three. CO3K2
(Or)
7. b. Draw the flowchart for interrupt cycle CO3K3

8. a. What is an instruction format? Explain different types of instruction formats in detail CO4K2
(Or)
8. b. List the difference between RISC and CISC CO4K2

9. a. Write short note on I/O interface CO5K1
(Or)
9. b. Elaborate in detail the memory hierarchy with neat diagram. CO5K5

Part-C **3x12=36**
Answer ALL questions
Each answer should not exceed 800 words or four pages

10. a. Draw and explain the flowchart for Instruction Cycle CO3K2
(Or)
10. b. Design of a Basic Computer System and explain in detail CO3K2

11. a. Draw and explain Stack organization in detail CO4K3
(Or)
11. b. Explain (i) Data transfer (ii) Data manipulation (iii) Program control instructions CO4K2
(Or)
12. a. Explain the concept of Direct Memory Access in detail CO5K2
(Or)
12. b. Express the following various mapping schemes used in cache design.
i) Direct. ii) Associative. iii) Set associative. CO5K1

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