# 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 2024**
**I Semester**

**Class : I UG** **Time : 2 hours**
**Major : Computer Science/Computer Applications** **Max. Marks : 60**

**23BCSC02/23BCAC01 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** **6 x 1 = 6**

**Choose the correct answer**

1. The register causing the computer to read sequential instructions is _____. CO3K2
   a. IR b. PC c. Index register d. Data register
2. The key characteristics of Microprogrammed control is _____. CO3K2
   a. Expensive b. Complex c. RISC d. Flexibility of adding new instructions
3. DIV Z, R3, R4 instruction is represented in _____instruction types. CO4K2
   a. 2 - Address b. 3 - Address c. 1 - Address d. RISC
4. The techniques that move program blocks to or from the physical memory is called as ___. CO5K2
   a. Paging b. Virtual Memory Organization c. Overlays d. Framing
5. This memory type has unidirectional bus. CO5K2
   a. RAM b. ROM c. Auxiliary memory d. High speed memory
6. The mode where the DMA controller takes over the bus from the CPU during data transfer is CO5K2
   a. Direct b. Indirect c. Cycle stealing d. Interrupt

**Part B** **3 x 6 = 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 of it. CO3K2

(Or)

7. b. Draw the flowchart for interrupt cycle. CO3K3

8. a. Differentiate the hardwired and micro programmed control unit CO4K2

(Or)

8. b. Explain the basic concept of pipelining in detail CO4K2

9. a. Write short notes on Peripheral Devices. CO5K1

(Or)

9. b. Draw a neat block diagram of memory hierarchy and explain CO5K5

**Part C** **3 x 12 = 36**

**Answer ALL questions**
**Each answer should not exceed 800 words or four pages**

10. a. Explain the working principle of Instruction Cycle in detail. CO3K2

(Or)

10. b. Design of a Basic Computer System and explain in detail CO3K2

11. a. Draw and explain General registers 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. What is cache memory? Explain different Mapping techniques CO5K1

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