

Roll No.

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Total No. of Pages : 02

Total No. of Questions : 09

MCA (2014 Batch) (Sem.-1)
COMPUTER ORGANIZATION AND ASSEMBLY LANGUAGE
Subject Code : MCA-103
M.Code : 26044

Time : 3 Hrs.

Max. Marks : 100

INSTRUCTIONS TO CANDIDATES :

1. SECTIONS-A, B, C & D contains TWO questions each carrying TWENTY marks each and students has to attempt any ONE question from each SECTION.
2. SECTION-E is COMPULSORY consisting of TEN questions carrying TWENTY marks in all.

SECTION-A

1. Discuss in detail and differentiate between RISC and CISC architectures.
2. Explain the various instruction formats using the following expression :

$$A+B*C+D.$$
SECTION-B

3. What do you mean by parallel processing? Discuss arithmetic and instruction pipelining in detail.
4. What is Input-output Interface? Briefly discuss and compare the following I/O schemes :
 - a. Programmed I/O
 - b. Interrupt initiated I/O

SECTION-C

5. Define Associative Memory. Explain the matching logics as used in Associative Memory.
6. What is Paging? What are the similarities and differences between paging and segmentation schemes of memory management? Explain in detail.

SECTION-D

7. Elaborate on Interprocessor communication and synchronization in multiprocessors.
8. Discuss the addressing modes of a 8-bit processor.

SECTION-E

9. Write briefly :

- a) Explain the instruction cycle of a computer.
- b) What is an Interrupt? What are priority interrupts?
- c) What is Stored Program Organization?
- d) What is Vector Processing?
- e) Differentiate between isolated and memory-mapped I/O.
- f) What is the need of an array processor in the execution of a vector instruction?
- g) What is Virtual memory?
- h) Why is cache coherence important for shared-memory multi-processor systems?
- i) What is a Crossbar switch?
- j) Write an assembly language program to sort n numbers.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.