

Roll No.

Total No. of Pages : 02

Total No. of Questions : 09

MCA (2015 & Onward) (Sem.-6)

ADVANCED COMPUTER ARCHITECTURE

Subject Code : MCA-603

M.Code : 74757

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. SECTIONS-A, B, C & D contains TWO questions each carrying TEN 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. Explain the instruction set architecture in detail.
2.
 - a) Describe the working of pipelined processor.
 - b) What are different hazards of pipeline? Explain.

SECTION-B

3.
 - a) What is direct mapped memory? Explain by taking example.
 - b) Explain the working of pipelined cache.
4. Describe the concept of write-back and write-through cache by taking suitable examples.

SECTION-C

5.
 - a) What are advanced processors? Describe the concept of superscalar execution.
 - b) Define memory disambiguation. Discuss its use.
6. What is meant by dynamic instruction scheduling? Also explain the working of SIMD processor.

SECTION-D

7. What is meant by memory protection? Why is it required? Also explain the concept of virtualization.
8. a) Define Memory synchronization
b) Elaborate consistency and coherence

SECTION-E

9. Write briefly :

- a) Comment on hardwired design. b) What are multicore processors? c) What is meant by pipeline hazard? d) Define FSM.
- e) What is the way of measuring the performance of memory? f) Discuss briefly about cache memory. g) What is register naming?
- h) What is meant by branch prediction? i) What are non-blocking caches? j) Discuss the use of virtual memory.

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.