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.