Roll No. | | | | | | | | | | | | **Total No. of Pages : 02**

Total No. of Questions : 09

B.Tech. (3D Animation & Graphics) (2012 Onwards)

B.Tech. (CSE/IT) (2011 Onwards)

(Sem.–3)

COMPUTER ARCHITECTURE

Subject Code : BTCS-301

Paper ID : [A1123]

Time : 3 Hrs. **Max. Marks : 60**

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.**

SECTION-A

1. Write briefly :

a) What are the merits and demerits of single address instructions?

b) What is micro-programming?

c) What are the components of an I/O interface?

d) What do you mean by Associative memory and its application?

e) What is the role of cache in pipelining?

f) Define Guard bit and truncation.

g) What is bus arbitration and its types?

h) Differentiate between CISC & RISC.

i) Name various data transfer modes.

j) State the basic performance equation.

SECTION-B

2. What are the types of ALU? Give advanced features of ALU.

3. Discuss the data and control path methods in pipelining.

4. Define Micro-operation with example. Give the format for micro instruction.

5. Define addressing mode and describe the basic addressing modes with an example for each.

6. List and explain the steps involved in the execution of a complete instruction.

SECTION-C

7. Explain with the help of a neat sketch diagram, the working principle of DMA.

8. Discuss the features of cache memory and different mapping functions used for its accessing. How can its performance be improved?

9. Discuss different types of control unit organizations. Compare and contrast the hardwired control organization and micro programmed Control organization.