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

Total No. of Questions : 09

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

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

(Sem.–3)

COMPUTER ARCHITECTURE

Subject Code : BTCS-301

Paper ID : [A1123]

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

INSTRUCTION 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 has to attempt any FOUR questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students has to attempt any TWO questions.**

SECTION-A

1. Write short notes on :

a) Differentiate between program interrupt and subroutine call.

b) What is meant by interleaved memory?

c) An address space is specified by 24 bits and corresponding memory space by 16 bits. How many words are there in virtual memory and in main memory?

d) List some properties of SIMD.

e) What are the issues in computer design?

f) What are the registers generally contained in the processor?

g) How many clock cycles are required to process 100 tasks in five segmented pipelines?

h) Distinguish between isolated and memory mapped I/O.

i) Write register transfer sequence for read and write from memory.

j) What is Bus? List various types of buses?

SECTION B

2. Explain any five addressing modes with suitable example.
3. Explain the various phases of instruction cycle with the help of flowchart.
4. What are microinstructions? Explain microinstruction format in detail.
5. How asynchronous data transfer is achieved with the help of handshaking method?
6. Explain the basic components of memory management unit.

SECTION C

7. What is mapping in context of cache memory? Explain three types of mapping procedures used in cache memory.
8. What are the benefits of parallel processing? Explain Flynn's classification for parallel computers.
9. What are shift micro operations? Design 4 bit combinational circuit for shifter.