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 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 short notes on :

a) Write the functions of computer register.

b) Define control memory.

c) What is the difference between direct and indirect addressing? How many memory references are required in both the cases?

d) Define vector processing.

e) What is the function of asynchronous data transfer?

f) What are the two approaches to reduce delay in adders?

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

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

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

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

SECTION-B

2. Compare RISC architecture with CISC architectures.

3. Explain **any five** memory reference instructions in detail.

4. Design microprogram sequencer for control memory.

5. How asynchronous data transfer is achieved with the help of strobe pulse?

6. Write a short note on virtual memory.

SECTION-C

7. What is Associative memory? Explain hardware organization of associative memory.

8. What is the difference between static and dynamic network interconnections? Discuss **any three** network interconnection networks.

9. Design a four bit arithmetic circuit.