

**B.Tech. - VIEP - COMPUTER SCIENCE AND
ENGINEERING (BTCSVI)**

Term-End Examination

June, 2015

00926

BICS-013 : COMPUTER ORGANISATIONS

Time : 3 hours

Maximum Marks : 70

Note : Attempt any seven questions. All questions carry equal marks.

1. (a) What do you understand by fixed and floating point number representation ? 5
(b) Discuss the various page replacement policies. 5
2. (a) Explain stack organization in the CPU. 5
(b) Discuss binary division algorithm. 5
3. Explain the various addressing modes of instructions, with examples. 10
4. (a) What is an instruction set ? What are the elements of an instruction format ? 5
(b) Explain auxiliary memory with examples. 5

5. (a) Explain the bus arbitration method briefly. 5
- (b) What is Interrupt ? Discuss their types and uses also. 5
6. (a) "Hamming code is used for error detection and correction of single bit vector." Justify your answer. 5
- (b) Explain why is the read and write control line in a DMA controller bidirectional. 5
7. (a) Represent the following conditional control statement by register transfer statement with control function : 5
- if (A = 1), then (R₁ ← R₂) else if
(B = 1), then (R₁ ← R₃).
- (b) How many 128 × 8 RAM chips are needed to provide a memory capacity of 2048 bytes ? 5
8. (a) Differentiate between hardwired and micro-programmed control unit. 5
- (b) Differentiate between synchronous and asynchronous serial communication. 5
9. (a) Define the terms : locality of reference and hit ratio, with examples. 5
- (b) Explain 2D and $2\frac{1}{2}$ D memory organization with block diagram. 5

10. Explain the following :

$2 \times 5 = 10$

(a) Booth's Algorithm

(b) Array Multiplier
