

**B.Tech. – VIEP – COMPUTER SCIENCE AND
ENGINEERING (BTCSEVI)**

Term-End Examination

00076

June, 2016

BICS-013 : COMPUTER ORGANISATIONS

Time : 3 hours

Maximum Marks : 70

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

1. (a) Differentiate between Von Neumann's and Harvard architectures. 5
- (b) Write the advantages and disadvantages of fixed point number system. 5
2. (a) Explain single and single extended precision of IEEE standard for floating point computation. 5
- (b) List the most commonly used registers and their operation for a basic computer system. 5
3. What do you mean by addressing modes ? Discuss ten different types of addressing modes with their merits and demerits. 10

4. (a) Design an array multiplier that multiplies two 4-bit numbers. 5
- (b) Define instruction cycle. Write the register transfer language for the fetch phase. 5
5. (a) Draw a block diagram of 512×8 ROM chip. 5
- (b) Differentiate between static RAM and dynamic RAM. 5
6. (a) How can you visualize the total memory capacity of a computer system ? Explain with help of an example. 5
- (b) How many 128×8 RAM chips are needed to provide a memory capacity of 2048 bytes ? 5
7. (a) Define the terms Locality of reference and Hit ratio with examples. 5
- (b) Differentiate between Synchronous and Asynchronous serial communication. 5
8. (a) Explain the modes of data transfer with examples. 5
- (b) Differentiate between magnetic tape and optical disks. 5

9. (a) Differentiate between hardwired and micro-programmed control unit. 5

(b) Draw a block diagram for a typical RAM chip and explain the function table for it. 5

10. Write short notes on any *two* of the following : $2 \times 5 = 10$

(a) Booth's Algorithms

(b) Interrupts

(c) Standard Communication Interfaces
