BICS-009

B.Tech. – VIEP – COMPUTER SCIENCE AND ENGINEERING (BTCSVI)

Term-End Examination

 00613   **December, 2016**

BICS-009 : LOGIC DESIGN

Time : 3 hours   *Maximum Marks : 70*

*Note : Attempt any **seven** questions. Each question carries 10 marks.*

1. (a) Explain the functions of a controller.   5

    (b) Describe the factors that are considered in the development of virtual devices.   5

2. What is a thread ? Explain with the help of an example.   10

3. What is a process ? Why is the process concept required by an operating system ? How is it different from a program ? What are the different states of a process ?   10

4. (a) What is a scheduler ? List all the schedulers available along with their working principles.   5

    (b) What is a semaphore ? What are the types of semaphores ?   5

5. (a) Discuss a deadlock prevention strategy to deal with deadlock. *5*

(b) How can deadlock be avoided ? Explain with the help of examples. *5*

6. Discuss the various memory management techniques along with their advantages and disadvantages. *10*

7. Explain the following : *2×5=10*

(a) Paging system

(b) Segmentation system

8. (a) Explain the purpose of working set timing in Windows NT. *5*

(b) Compare block and character device files in UNIX. *5*

9. What is a directory ? Explain Single-level directory, Two-level directory, and Tree-structured directory in detail. *10*

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

(a) Threads

(b) Virtual Memory

(c) Authentication and Authorization