BICS-019

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

Term-End Examination

00276

December, 2014

BICS-019 : OPERATING SYSTEMS

Time : 3 hours   *Maximum Marks : 70*

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

1. (a)   Define operating system. Discuss the objectives of the multiprocessor system.

    (b)   Describe the steps involved in booting.   *2×5=10*

2. Describe drivers. Explain the device management techniques in detail.   *10*

3. (a)   How is process synchronization implemented ?

    (b)   Explain the different states of a process with the help of a state transition diagram.   *2×5=10*

4. What is deadlock ? Describe the deadlock detection and prevention.   *10*

5. Describe the following :   *2×5=10*

    (a)   Pre-emptive scheduling

    (b)   Non pre-emptive scheduling

6. (a)   What are semaphores ? What is the usage of semaphores ?

    (b)   Define race conditions and describe the method used to prevent race condition.

    2×5=10

7. What is the main purpose of a system call and a system program ? Define kernel and describe the various operations performed by kernel.   *10*

8. Describe the importance of protection and security in the file management.   *10*

9. Explain a memory management scheme which can reduce the extent of external fragmentation with the help of a diagram.   *10*

10. Explain any *two* of the following :   *2×5=10*

    (a)   Disk scheduling

    (b)   Paging

    (c)   Windows NT