No. of Printed Pages : 2

BICS-019

00031

B.Tech COMPUTER SCIENCE ENGINEERING (BTCSVI)

Term-End Examination

December, 2013

BICS-019 : OPERATING SYSTEMS

Time : 3 hours *Maximum Marks : 70*

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

1. (a) What is an operating system ? Write down the major differences between batch and time sharing operating system. 5
   (b) What is threading ? What are the advantages of multithreading ? 5

2. (a) Explain process synchronization implementation in detail. 5
   (b) Discuss the objective of the Multiprocessor systems. 5

3. Define the term process. List and explain the different states of a process. Also draw the process state transition diagram. 2+5+3

4. (a) Show how a monitor can be Implemented with semaphores ? 6
   (b) Explain mutual exclusion problem with an example. 4

5. What is deadlock ? Describe the necessary conditon for deadlock to occur. 2+8

6. What is virtual memory ? Describe its advantages with respect to user point of view and with respect to system point of view. 2+8

7. Define Paging. Explain paging algorithms in detail. 2+8

8. Explain the following : 5+5
   (a) File protection
   (b) Segmentation system

9. Describe the importance of protection and security in file Management. 10

10. Write Short Notes on **any two** of the following : 5x2=10
   (a) Authentication and Authorization.
   (b) Unix Kernel file system.
   (c) Windows NT.
   (d) Device Management.