No. of Printed Pages : 2

BICS-019

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

Term-End Examination

June, 2015 00684

BICS-019 : OPERATING SYSTEMS

Time : 3 hours *Maximum Marks : 70*

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

1. (a) Define an operating system. Discuss the main functions of the operating system. *5*

(b) Differentiate between a system call and a system program. Define a kernel and describe some operations performed by kernel. *5*

2. Explain in detail any two process scheduling mechanisms, with one example each. *10*

3. Explain in detail on multiprogramming and multitasking operating systems. Write the merits and limitations of both. *7+3=10*

4. (a) Explain the different states of a process with the help of state transition diagram and also explain Process Control Block (PCB). *7*

(b) What are the different file organisation techniques ? *3*

5. What is a semaphore and its usage ? Define a Race condition and describe the methods used to prevent race condition. *3+7=10*

6. Explain in detail the various memory allocation and reallocation techniques. *10*

7. (a) Discuss the objectives of the multiprocessor system. *5*

   (b) What is a threading ? What are the advantages of multithreading ? *5*

8. (a) Describe the implementation of paging and segmentation with suitable example. *5*

   (b) Explain in detail on deadlock prevention techniques. *5*

9. Explain the following : *5+5=10*

   (a) Directory structure in Windows-NT

   (b) File protection

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

    (a) Virtual Memory

    (b) Device Management

    (c) Implementation Techniques of Authentication and Authorization