Registration No. : | | | | | | | | | | |

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B. Tech

PCCS 4304

Sixth Semester (Special/Back) Examination – 2013

OPERATING SYSTEM

BRANCH : BIOMED, EEE, ELECTRICAL, IEE, MM, MME

QUESTION CODE : E 373

Full Marks – 70

Time : 3 Hours

*Answer Question No. **1** which is compulsory and any **five** from the rest.*
The figures in the right-hand margin indicate marks.

1. Answer the following questions : 2×10

   (a) What is real time system ?

   (b) Define throughput.

   (c) What is process control block ?

   (d) What is meant by context switch ?

   (e) Is it possible to have a deadlock involving only one single process ?

   (f) State the advantage of multiprocessor system.

   (g) What is a thread ?

   (h) Define turn-around time.

   (i) What is Binary Semaphores ?

   (j) Define Monitor.

P.T.O.

2. Consider the set of process <A, B, C, D, E> with the length of the CPU burst <24, 15, 16, 15, 20> and they arrive in the same order at time 0.Find out the turn around and waiting time for each process using FCFS and SJF scheduling. 10

3. (a) Compare between System Call and System Programs. 5

   (b) Explain the various operations on Processes. 5

4. Define Page replacement. Explain any three Page Replacement algorithms with suitable example. 10

5. (a) What advantage is there in having different time-quantum sizes on different levels of a multilevel queueing system ? 5

   (b) Define deadlock. Explain the necessary conditions for deadlock. 5

6. (a) Define virtual memory and discuss how is it implemented ? 5

   (b) What is Segmentation ? Explain the advantages of segmentation. 5

7. What is File System ? Discuss the different file allocation methods. 10

8. Write short notes any **two** of the following : 5×2

   (a) Banker's algorithm

   (b) SCAN Disk Scheduling strategy

   (c) Critical section Problem

   (d) Dining- Philosophers Problem.