

(Please write your Exam. Roll No.)

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# END TERM EXAMINATION

## FOURTH SEMESTER [BCA], MAY – 2011

Paper Code : BCA 208

Subject : Operating System

Paper Id : 20208

Time : 3 Hours

Maximum Marks : 75

Note : Attempt One question each from section A, B, C, D. Section E is compulsory. All questions carry equal marks.

### Section A

- Q. 1. A variable partition memory system has at some point in time the following hole sizes in the given order :- 20k, 15k, 40k, 60k, 10k, 25k. A new process is to be loaded. Which hole size would be filled using best-fit, first-fit and worst-fit respectively?
- Q. 2. Explain the following
- Batch Processing
  - Multiprocessing
  - Multitasking
  - Real time operating system

### Section B

- Q. 3. What is round robin scheduling? Explain taking any example. Can it be useful for a single user system? If yes, then explain. If no, then why not?
- Q. 4. (a) Describe the difference between short term, medium term and long term scheduling.
- (b) What is the difference between dedicated and virtual device?

### Section C

Q. 5. What is a dead lock? What are the conditions for a deadlock to occur? How it can be avoided?

Q. 6. Suppose that the head of moving head-disk with 20 tracks, numbered 0 to 199, has just finished a request at track 125. The queue of the requests is kept in FIFO order :

86, 147, 91, 177, 94, 150, 102, 175, 130.

What is the total number of head movements needed to satisfy requests for the following disk Scheduling algorithms :

(i) FCFS (ii) SSTF (iii) Scan

### Section D

Q. 7. Discuss the structure of directory and its implementation in detail.

Q. 8. What are the various free space management techniques? Discuss.

### Section E

Q. 9. (a) What is a swap space?

(b) What is a time sharing system?

(c) Distinguish between a pipe and output redirection.

(d) Why it is necessary to reallocate a program in memory?

(e) What is a process?

(f) Why protection of file is required?

(g) Name any two network operating systems.

(h) What do you understand by thrashing?

(i) Explain what is FILE ALLOCATION TABLE.

(j) What is Virtual Memory?

