END TERM EXAMINATION

FOURTH SEMESTER [BCA] MAY-JUNE 2012

Paper Code: BCA208	Subject: Operating Systems
Time : 3 Hours	Maximum Marks :75

Note: Section-A is compulsory. Attempt one question from remaining each section.

SECTION-A

Q1 Explain in brief the following:- **(3x5=15)**
(a) List the differences between short term and long term scheduling.
(b) List the differences between process and program.
(c) List the differences between page and segment.
(d) List the differences between Batch processing and multiprocessing systems.
(e) List the differences between deadlock and starvation.

SECTION-B

Q2 (a) Discuss Demand Page memory management technique in detail. **(8)**
(b) Consider the page trace- 3,1,2,5,4,1,2,5,2,1,3. Find the failure frequency for "FIFO and Least recent used" page replacement policy. **(7)**

Q3 Why an operating system is known as "Resource manager"? Explain its function in detail. **(15)**

SECTION-C

Q4 Explain 'Critical Section Problem' and discuss the various algorithms to solve synchronization problem. List the advantages and disadvantage of each algorithm. **(15)**

Q5 What do you understand about process scheduling? Why is it important? Explain the various process scheduling techniques with the help of examples. **(15)**

SECTION-D

Q6 Discuss Banker's algorithm in detail. Also provide an example for Banker's algorithm. **(15)**

Q7 (a) Explain the following terms used in Device management. **(9)**
(i) Dedicated device   (ii) Channel   (iii) Control unit
(b) Discuss the following Disk Scheduling technique with an example:- **(6)**
(i) SCAN   (ii) LOOK

SECTION-E

Q8 Discuss the general model of a file system. Also, explain the steps to map a logical address to its physical address. **(15)**

Q9 List the advantages and disadvantages of the following File-Allocation methods:- **(5x3=15)**
(a) Continuous file allocation method.
(b) Indexed file allocation method.
(c) Heirarical file allocation method.

****