DG-3180
Third Year B. Sc. (Sem. V) (Computer Science)
Examination
March / April - 2016
Paper - 506 : Operating System - I

Time : 2 Hours] [Total Marks : 50

Instruction :

1 Answer the following questions in short : 14

(1) Differentiate single user and multi user o.s. give example of each.

(2) Define process and job scheduling.

(3) List major activities of an operating system in regards to process management.

(4) Define semaphores.

(5) What is multitasking o.s ? List multitasking o.s.

(6) What do you mean by co-operating process ?

(7) List process management functions.

2 Write answers for the followings : 6+6

(1) Define operating system. Also explain its goal.

(2) Write detail note on evolution of operating system.

OR

(1) Explain priority scheduling techniques with various issues like aging in detail.

(2) Differentiate contiguous versus non-contiguous memory management scheme.
3 Write answers for the followings : 6+6
(1) What do you understand by critical section problem ? Discuss Paterson’s policy to solve the critical section problem.
(2) Explain banker’s algorithm and its advantages.

OR
(1) Consider 1,2,3,4,5 8,3,6,0,1,2,3,4,8,3,6,2,5,3 how many page faults will occur for the following replacement ? Consider the memory is empty initially and memory is having 3 frames discuss FIFO page replacement algorithm and Optimal page replacement algorithm.
(2) Write detail note on multilevel paging techniques.

4 Write answers for the followings : 6+6
(1) Explain demand paging in detail. Also write its advantages and disadvantages.
(2) List four necessary conditions to occur deadlock. Explain how can you prevent deadlock by breaking any one ? (Exclude mutual exclusion).

OR
(1) What is semaphore ? Explain how does it solve the critical section problem.
(2) Explain segmentation with demand paging.