

G-311

B. C. A. (Second Semester) Examination, June 2015

(Course : 2012-13 / 2010-11)

(For Regular / ATKT / Ex-Students)

OPERATING SYSTEMS

*Time Allowed : Three hours**Maximum Marks : 50**Note : Attempt all five questions. All questions carry equal marks.*

1. What is an operating system? What are the services provided by operating system? Differentiate between

G-311

PTO

buffering and spooling.

Or

Discuss the differences among following :

- (i) Multiprogramming and multitasking
- (ii) Parallel system and Distributed system

2. What is the main difference between deadlock and starvation? Suppose that a system is in unsafe state. Show that it is possible for the process to complete their execution with entering deadlock state.

Or

Compare following CPU scheduling algorithm using a suitable example.

- (a) FCFS
- (b) Priority
- (c) Round Robin

Which one is best to use?

3. Describe the first fit, Best fit and worst fit allocation algorithms. Given memory partition of 200K, 500K, 300K, 700K (in order) how would each of the first fit, Best-fit

[3]

and worst fit algorithms place processes of 212K, 318K, 116K and 326K (in order)? Which algorithm makes the most efficient use of memory?

Or

What is paging? Explain paging hardware. Differentiate between paging and segmentation.

4. What is virtual memory? Explain with neat sketch the translation of virtual address into physical address in a paging system.

Or

When do page fault occurs? Describe the action taken by the operating system when a page fault occurs. Write short note on thrashing.

5. Discuss the various attributes of a file? What are the methods that help in accessing the information stored in a file? Discuss them briefly.

Or

Explain the different approaches for implementing mutual exclusion in a distributed environment.