Bachelor of Computer Applications
Annual Examinations – 2006

Paper BCAD – 202

Operating Systems

Time allowed: Three hours | Maximum Marks: 100

SECTION I

Q1. Attempt all objective type questions given below: 20 x 1 = 20

1. _____ provide the interface between a process and the operating system.
2. Round robin is _____ type of scheduling.
3. Paging suffers from _____ fragmentation.
4. FIFO algorithm for page replacement suffers from _____.
5. _____ files allow unrelated processes to communicate with each other.
6. _____ access is not possible in link allocation.
7. Two methods were inter-process communication are_____ and _____.
8. The DOS commands that can be entered ones the prompt is available are knowr as _____ commands.
9. UNIX supports _____ levels of security.
10. _____ is known as a light weight process.
11. Memory is one of the central resources required for a _____.
12. If process size is independent of page size, we expect _____.
13. A variant of linked allocation is _____.
14. A link has some capacity that determines _____.
15. The active desktop is customizable workspace on which _____.
16. Program menu contains _____.
17. UNIX divides the available memory into _____.
18. Swapping is done by _____.
19. Turned around time is generally used for _____.
20. Attributes are properties of _____.

SECTION – II

Q2. Attempt any six question in about 75-100 words. All question carry equal marks. 5 x 6 = 30

1. What are characteristics of real time operating systems?
2. Differentiate between long term and short term schedules.
3. How does swapping improve the system performance?
4. Give the advantages and disadvantages of segmentation.
5. Discuss the importance of clock in digital computer.
6. Differentiate between synchronous and asynchronous.

7. Describe the four necessary and sufficient conditions for deadlock to occur.
8. What makes UNIX portable and secure?

SECTION – III

Q3. Attempt any five questions (in 300 – 400 words each except question no. 1). Each question carries equal marks. 10 x 5 = 50

1. Five jobs A through E arrive at a computer center at almost the same time. They have estimated running times of 80, 20, 10, 20 and 50.

   (a) Create a ganlt chart illustrating the execution of these processes using round robin (time quantum – 10) and shortest job first scheduling.

   (b) Find out the turn around time and waiting time for each process in both the cases.

   (c) What is the average of these times in both the cases?
2. Discuss effect of heavily multiprogramming on demand-page swapping.
3. Compare and contrast between layered and microkernel architecture of operating system. Define turn around and wait times.
4. What is internal and external fragmentation? Explain how dynamic memory allocation reduces fragmentation.
5. How is computer's clock different from a real clock? Write any five functions of clock software.
6. What are the advantages of encrypting data stored in the oomputer system?
7. Describe the functions of control panel.
8. Explain the various feature of UNIX in detail.
9. Capability lists are usually kept within the address space of the user. How the system does ensures that the user cannot modify the contents of the list.
10. Which file operations are applicable to directories and which are not?