

ML-140

B.C.A. IIIrd Semester Examination, 2014-15

Operating System

Paper - BCA-304

Time : 3 Hours]

[Maximum Marks : 85

Note :- Attempt all questions.

SECTION - 'A'

Objective Type Questions 1½×10=15

1. Choose the correct answer :

- (i) Magnetic tape can serve as :
- (a) Input media
 - (b) Output media
 - (c) Secondary storage media
 - (d) All of the above
- (ii) Access time is highest in case of :

- (a) Floppy disk
- (b) Cache
- (c) Swapping device
- (d) Magnetic disks

(iii) A page fault occurs :

- (a) When page is not in the memory
- (b) When the page is in the memory
- (c) When the page enters in the blocked state
- (d) When the process is in the ready state

(iv) page replacement algorithm suffers from Belady's :

- (a) LRU
- (b) MRU
- (c) FIFO
- (d) LIFO

(v) Memory protection is of no use in :

- (a) Single user system
- (b) Non - Multiprogramming system
- (c) Non - multitasking system
- (d) None of the above

(vi) Resource are allocated to a process on non sharable basic in :

P.T.O.

(3)

- (a) Mutual exclusion
 - (b) Hold and wait
 - (c) Non preemptive
 - (d) Circular wait
- (vii) The operating system manage :
- (a) Memory
 - (b) Process
 - (c) Disk and I/O devices
 - (d) All of these
- (viii) The Banker's algorithm is used :
- (a) To prevent deadlock in operating system
 - (b) To detect deadlock in operating system
 - (c) To rectify a deadlock state
 - (d) None of the above
- (ix) PCB is stand for :
- (a) Program Control Block
 - (b) Process Control Block
 - (c) Process Communication Block
 - (d) None of the above

(4)

- (x) The mechanism that bring a page into memory only when its needed is called
- (a) Segmentation
 - (b) Pragmentation
 - (c) Demand paging
 - (d) Page replacement

SECTION - 'B'

Short Answer Type Questions 5×5=25

2. Explain multiprocessor system.

OR

Make comparision b/w buffering and spooling.

3. Write short on process control Block.

OR

What is scheduling ? Why CPU scheduling is necessary.

4. What do you understand by page fault ?

OR

What do you mean by Swapping ? How does it help in memory management.

5. How files can be structured explain ?

OR

How is free space is maintained in a disk system.

6. Write short note on security threat.

OR

Define the term deadlock.

SECTION - 'C'

Long Answer Type Questions 9×5=45

7. Discuss about the services provided by an operating system.

OR

Explain distributed system? And its types with example.

8. Explain about various types of scheduler also discuss the purpose of each.

OR

For the a head job calculate the average turn around time, waiting time, response time using FCFS, Preemptive, Priority and Round Robin algorithm. With as highest priority and 4 has lowest priority

Job	Burst Time	Arrival Time	Priority
A	10	0	3
B	2	1	1
C	4	2	3
D	6	4	4
E	5	4	2

9. What is fragmentation? What are its type. How they are minimize in different memory management scheme?

P.T.O.

OR

Consider the following page reference string

1, 2, 3, 4, 5, 3, 4, 1, 6, 7, 8, 7, 8, 9, 7, 8, 9

How many page fault would occur for the following replacement algorithm assuming 2, 4, 5 frames being made available

(i) FIFO

(ii) LRU

10. Describe methods used to manage free disk space in a computer system.

OR

Differentiate b/w Blocking and Non-Blocking I/O?

11. Explain deadlock avoidance? Define safe and unsafe states in a system?

OR

What do you understand by security problem? What are the different level of security?

Copies 6000