TDC Even Semester Exam., 2019

COMPUTER APPLICATION

(Honours)

(4th Semester)

Course No. : BCAC–403

(Operating System Architecture)

Full Marks : 35
Pass Marks : 12

Time : 2 hours

The figures in the margin indicate full marks for the questions

Answer **five** questions, selecting **one** from each Unit

UNIT—I

1. *(a)* Explain the different types of operating systems. 5

(b) Draw the block diagram of process transition states. 2

2. *(a)* What do you mean by system call? Mention different types of system calls. 3

(b) Explain Round Robin and Shortest Remaining Time Scheduling. 4

UNIT—II

3. *(a)* Discuss the differences between paging and segmentation. 3

(b) What is the difference between internal fragmentation and external fragmentation? 2

(c) What are the advantages of paging? 2

4. *(a)* Write an algorithm for Page Buffering. 3

(b) Describe the following : 2+2=4

(i) Swapping

(ii) Least Recently Used (LRU) page replacement algorithm

UNIT—III

5. *(a)* Discuss Shortest Seek Time First disk scheduling algorithm with an example. 4

(b) What do you mean by interrupt handler? Explain briefly. 3

6. *(a)* What are the different approaches available to communicate with the CPU and device? 4

(b) What is the concept of buffering and caching? Explain briefly. 3

UNIT—IV

7. *(a)* What are the differences between Random Access and Indexed sequential file access? 3

(b) What are the advantages and disadvantages of Contiguous Allocation and Linked Allocation of spaces? 4

8. What do you mean by directory structure? Discuss different types of directory structures. 7

UNIT—V

9. *(a)* What are the important features of Linux operating system? 4

(b) What is race condition? Mention the methods that can be used to prevent unpredictable results because of race condition. 3

10. Discuss Deadlock handling mechanism in detail. 7

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