(20519)   Roll No. ....

Total Questions : 13]   [Printed Pages : 4

18017

B.C.A. IVth Semester Examination, May-2019

OPERATING SYSTEM

(BCA-402)

Time : 3 Hrs.]   [M.M. : 75

Note :– Attempt questions from all Sections as per instructions.

Section–A

(Very Short Answer Type Questions)

Note :– Attempt all the *five* questions. Each question carries 3 marks.

1. Discuss virtual memory and their benefits.

2. Explain directory structure.

3. What is Process Control Block ? Design basic framework of process control block.

4. Differentiate multiprogramming and time sharing operating system.

5. Name the different file access methods and describe in brief.

Section–B

(Short Answer Type Questions)

Note :– Attempt any *two* questions out of the following three questions. Each question carries 7½ marks.

6. What is Fragmentation Problem ? Describe the external and internal fragmentation.

7. Write the name disk schedule algorithm. Write the method and explain the working of any *two* algorithm.

8. Consider the following reference string :

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

   How many page faults will occur for :

   (i)   LRU replacement

   (ii)   FIFO replacement ?

Note :– Initial all frames are empty. Best to assume 5 frames.

Section–C

(Long Answer Type Questions)

Note :– Attempt any *three* questions out of the following five questions. Each question carries 15 marks.

9. Write short notes on the following :

   (a) File allocation methods

   (b) Swapping

   (c) Disk structure

   (d) Contiguous memory allocation

   (e) Threads

10. What is Dead lock ? Explain four necessary conditions for dead lock to occur with suitable example. Describe the different methods for prevention and avoidance of dead lock.

11. (a) What the basic functions does an operating system perform as a resources manager ?

    (b) Show disk structure pictorially. Find the total capacity of the disk bared on the disk parameters.

12. (a) Under what circumstances does page fault occur ?

    (b) Describe the action taken by the operation system when page fault occur.

13. What are the different types of files ? What are the tasks of the file management system ? List some file system related commands in UNIX. How does OS ensure security in file system ?

NA–570 (3) Turn Over

NA–570 (4)