3 SEM TDC CSCN (CBCS) DSC 3

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(Held in April–May, 2021)

COMPUTER SCIENCE

(Discipline Specific Course)

Paper : DSC–3

(Operating System)

Full Marks : 53
Pass Marks : 21

Time : 3 hours

*The figures in the margin indicate full marks
for the questions*

1. Answer the following as directed :   1×4=4

   (a) When does page fault occur?
      (i) The page is present in memory
      (ii) The deadlock occurs
      (iii) The page does not present in memory
      (iv) Physical address is not same as virtual address
         (Choose the correct option)

(2)

   (b) State a function of touch command.

   (c) The _____ is used an an index into the page table.
                  (Fill in the blank)

   (d) What is the use of pipe in Linux?

2. Answer the following questions :   2×5=10

   (a) What is shell in Linux?

   (b) What is the function of TLB?

   (c) Write the command to search a string recursively in all directories (MS-DOS).

   (d) What is pre-emptive scheduling strategy?

   (e) What is filter? Name a filter and state its function.

3. Answer the following (any *three*) :   3×3=9

   (a) Write the uses of different modes of vi editor.

   (b) Explain briefly about the system software. Give example.

   (c) Explain the kernel mode of a process.

   (d) Explain briefly about many-to-one thread model.

(3)

4. Differentiate between the following (any *two*) :

4×2=8

(a) Fixed partition and variable partition

(b) Batch operating system and time sharing operating system

(c) Physical address and logical address

5. Define system call. Write briefly about fork and exec system call. 1+4=5

6. State the functions of operating system. 5

7. What is a process? Explain the different states of a process. 6

8. Consider the following set of processes that arrive at time zero. Calculate the average waiting time, average turnaround time and throughput using FCFS : 6

Process	Burst Time (ms)
P1	5
P2	24
P3	16
P4	10
P5	3

P1	P2	P3	P4	P5

0   5   29   45   55   58

★ ★ ★