

Roll No. :

Total No. of Questions : 11]

[Total No. of Printed Pages : 3

DDPG-561

Post-Graduate Diploma Course in Computer Application Examination, 2023

Paper - PGDCA-104

OPERATING SYSTEM

Time : 3 Hours]

[Maximum Marks : 50

Section-A

(Marks : 2 × 10 = 20)

Note :- Answer all *ten* questions (Answer limit **50** words). Each question carries **2** marks.

Section-B

(Marks : 3 × 5 = 15)

Note :- Answer all *five* questions. Each question has internal choice (Answer limit **200** words). Each question carries **3** marks.

Section-C

(Marks : 5 × 3 = 15)

Note :- Answer any *three* questions out of five (Answer limit **500** words). Each question carries **5** marks.

Section-A

1. (i) What do you mean by system calls ?
- (ii) Why do we call a thread as a light-weight process ?
- (iii) What do you mean by response time of a system ?
- (iv) What is the meaning of pre-emptive scheduling ?

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- (v) What are the two operations used in semaphores ?
- (vi) What is the difference between prevention and avoidance in content of deadlock ?
- (vii) What do you mean by a page table ?
- (viii) What is the top most root directing in linux system ? What symbol is used to represent this top most directory ?
- (ix) Write the command to delete a non-empty directory in Linux.
- (x) What does 'ls-a' command do in Linux ?

Section-B

2. Explain different types of schedulers.

Or

Describe the layered structure of operating systems.

3. Find the Gantt chart for following table and determine which process will be executed at last, if you use SJF scheduling :

Process	Burst time
P ₁	6
P ₂	9
P ₃	7
P ₄	2

Or

Explain MLQ Scheduling algorithm with a suitable example.

4. Explain the concept of a safe state in the context of deadlock.

Or

What are the requirements for a solution to the critical section problem ?

5. Explain the concept of paging using an example.

Or

Write the steps to install Linux in dual boot mode.

6. Write a shell script to find the factorial of an entered number by the user.

Or

How do you install packages in Linux ?

Section-C

7. Using a suitable diagram of different process states and transition among them, explain the life cycle of a process.
8. Explain the working of Round-Robin scheduling algorithm using suitable example.
9. Suggest a simple solution to reader's writer's problem and explain.
10. Explain the working of optimal page replacement technique using suitable example.
11. Explain the working of the following commands using suitable examples :
 - (a) uname
 - (b) man
 - (c) chmod
 - (d) cat