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PSG POLYTECHNIC COLLEGE, COIMBATORE - 641 004

DIPLOMA ODD SEMESTER EXAMINATIONS – NOV 2013

Z12404 OPERATING SYSTEMS

MODEL QUESTION PAPER

Time : 3 Hours **Max.Marks:100**

Instructions:

1. **Group A** and **Group B** questions should be answered in the Main Answer book.
2. Answer any **TEN** questions in **Group A**. Each question carries two marks.
3. Answer **ALL** questions either **(a)** subdivision or **(b)** subdivision in **Group B**. Each question carries 14 marks.

Group – A **Marks: 10 x 3 = 30**

1. Give the definition for an Operating System.
2. What are the common system components available in an operating system?
3. List any four functions of operating system.
4. What is a process? List out the components of a process.
5. What is context switching?
6. List down the types of process schedulers.
7. Define dynamic loading.
8. What is swapping?
9. Write the definition for Paging and mention any one advantage and disadvantage.
10. What is I/O buffering?
11. What are the factors of file allocation?
12. Write any four methods of file organization.
13. List down any four commands used in linux and write down its purpose.
14. What are the system components available in linux?
15. Mention any two drawbacks of linux.

Group– B **Marks: 5 x 14 = 55**

16. a) Explain about the system components.

(OR)

b) (i) List any five services provided by an operating system. Explain how each provides convenience to the users. (5)

(ii) Mention how system calls are categorized in an operating system and explain it elaborately. (9)

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17. a) What is the process control block? Explain with neat diagram.

(OR)

b) Consider following process, with the CPU burst time given in milliseconds.

Process	Burst time	Priority
P1	10	3
P2	1	1
P3	2	3
P4	1	4
P5	5	2

Processes are arrived in P1, P2, P3 P4, P5 order of all at time 0.

(i) Draw Gantt charts to show execution using FCFS and SJF scheduling.

(ii) Calculate turnaround time for each scheduling algorithms.

(iii) What is the waiting time of each process for each one of the above scheduling algorithms?

18. a) What is address binding? Explain in detail with neat diagram representing the steps for processing user program.

(OR)

b) Explain placement algorithm with suitable example.

19. a) Explain the different types of I/O buffering.

(OR)

b) (i) Elaborate the terms used in the formula Ts= m * n + s and T = b/rN. (5)

(ii) What is the maximum size of disk which contains following parameters? (9)
Cylinder= 1024, heads = 16 and sectors per track is 63.

20.a) Explain the components of linux operating system with neat diagram.

(OR)

b) Explain any six linux commands with appropriate examples.

/END/