

Pune Vidyarthi Griha's
COLLEGE OF ENGINEERING, NASHIK – 4
COMPUTER ENGINEERING DEPARTMENT

Subject : SPOS

ASSIGNMENT NO – 04

Unit : IV

1. What is operating system. Explain function of OS.
2. Explain types of Operating System.
3. State the Operating System Components.
4. Explain the Layered Architecture.
5. Draw & explain process state transition.
6. Draw & explain Process Control Block & Context switching.
7. Write short notes on Threads.
8. Explain the Process Scheduling with neat diagram(types of scheduler).
9. Explain different types of Scheduling method with an example.
10. Write short notes on Interprocess Communication and its problem.
11. Define deadlock. State condition of deadlock. Methods of handling deadlock.
12. What is deadlock avoidance.explain Bankers algorithms with example.
13. State System call. Explain various system call.
- 14.

Consider the following set of processes for preemptive SJF scheduling (Time slab 2) :

Process Name	Arrival Time	Processing Time
P1	0	3
P2	1	5
P3	3	2
P4	9	5
P5	12	5

15.

For the following set of processes calculate the average waiting time and turnaround time for FCFS, SJF and RR scheduling. Also draw Gantt chart.

Process No.	Arrival time	Burst time
1	0	8
2	1	4
3	2	9
4	3	5

16.

Find out the safe sequence for execution of 3 processes using Bankers algorithm

Maximum Resources: $R_1 = 4, R_2 = 4$

Allocation Matrix

	R_1	R_2
P_1	1	0
P_2	1	1
P_3	1	2

Maximum Requirement Matrix

	R_1	R_2
P_1	1	1
P_2	2	3
P_3	2	2

17.

Find out the safe sequence for execution of 3 processes using Bankers algorithm Maximum Resources: $R_1 = 7, R_2 = 7, R_3 = 10$

Allocation Matrix

	R_1	R_2	R_3
P_1	2	2	3
P_2	2	0	3
P_3	1	2	4

Maximum Requirement Matrix

	R_1	R_2	R_3
P_1	3	6	8
P_2	4	3	3
P_3	3	4	4

***** **Best of Luck** *****