

**PRAGATI ENGINEERING COLLEGE: SURAMPALEM**  
(AUTONOMOUS)

**II B.Tech I Semester Supplementary Examinations, June - 2024**

**OPERATING SYSTEMS**

(CSE)

**Max. Marks: 70**

**Time: 3 hours**

**Answer ONE Question from each Unit**  
**All Questions Carry Equal Marks**

Q. No.	Questions	BTL	CO	Marks
<b>UNIT – I</b>				
1.	Define operating system. Elaborate the operating system operations with examples.	K2	CO1	14M
<b>OR</b>				
2.	What is System call? Discuss major System calls of Operating Systems.	K2	CO1	14M
<b>UNIT – II</b>				
3.	How parent and child relationship is created between processes? Explain how parent and child behave on its termination.	K2	CO2	14M
<b>OR</b>				
4.	Consider a system where counting semaphore initialized to +17, on this semaphore variable the various operations like 23P, 18V, 16P, 14V and 1P are performed. Then what is the final value of semaphore?	K4	CO2	14M
<b>UNIT – III</b>				
5.	Discuss the hardware support required to support demand paging.	K2	CO3	14M
<b>OR</b>				
6.	Explain about FIFO, LRU page replacement algorithms with example.	K2	CO3	14M
<b>UNIT – IV</b>				
7.	How can deadlock be detected and recovered? Explain in detail with relevant example.	K2	CO4	14M
<b>OR</b>				
8.	Suppose the head of a moving head disk with 200 tracks, numbered 0 to 199, is currently serving a request at track 143 and has just finished a request at track 125. If the queue of requests is kept in FIFO order: 86, 147, 91, 177, 94, 150, 102, 175, 130. What is the total head movement to satisfy these requests for the following disk scheduling algorithms? (a) FCFS (b) SCAN (c) SSTF (d) C-SCAN	K3	CO4	14M
<b>UNIT – V</b>				
9.	What is meant by authentication? Why simple password protection is the most common authentication scheme in use today? Discuss the weakness inherent in the password protection scheme.	K2	CO5	14M
<b>OR</b>				
10.	a) Explain about capability-based systems.	K2	CO5	7M
	b) Discuss about revocation of access rights.	K2	CO5	7M