R18

Reg. No:

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)
B.Tech II Year II Semester Regular Examinations October-2020
FUNDAMENTALS OF OPERATING SYSTEMS
(Computer Science & Information Technology)

Time: 3 hours												Max. Marks: 60

PART-A
(Answer all the Questions **5 x 2 = 10** Marks)

1	a	What are the advantages of Multiprogramming?	**2M**
	b	Define Thread.	**2M**
	c	Define 'Safe State"	**2M**
	d	What is External Fragmentation?	**2M**
	e	What is Directory?	**2M**

PART-B
(Answer all Five Units 5 x 10 = 50 Marks)

UNIT-I

2	Explain the operating system structures.	**10M**

OR

3	a	Discuss about User and Operating System Interface.	**5M**
	b	Write a short note on System programs.	**5M**

UNIT-II

4 Consider the following processes, with the length of CPU burst time given below: **10M**

Process	Burst Time	Priority
P1	6	3
P2	3	2
P3	9	4
P4	4	1

Consider a Gantt chart illustrating the execution of this job using FCFS, non-preemptive priority & SJF CPU scheduling. Calculate the average waiting time and average turnaround time for each of the above Scheduling algorithm.

OR

5	a	Explain in detail about operations of process?	**5M**
	b	What is CPU scheduling? Explain types of Scheduling and Scheduling Criteria in detail?	**5M**

UNIT-III

6	a	Explain the Deadlock Detection.	**5M**
	b	Explain about the Recovery from deadlock.	**5M**

OR

7	a	Explain in detail about Deadlock Avoidance?	**6M**
	b	What are the Strategies for handling Deadlock?	**4M**

UNIT-IV

8 **a** Explain any two page replacement algorithms? **6M**
   b Explain the concept of segmentation in detail? **4M**

OR

9 **a** Explain Structure of page table? **5M**
   b Explain the concept of Virtual memory? **5M**

UNIT-V

10 **a** Explain File access methods in detail? **5M**
   b What is Directory? Explain Directory implementation? **5M**

OR

11 Explain in detail about File system Allocation methods with neat diagram? **10M**

END