APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

FOURTH SEMESTER B TECH DEGREE EXAMINATION-2017

CS204 OPERATING SYSTEMS

MODEL QUESTION PAPER

Time:3 Hrs Max Marks: 100

PART-A
(Answer all Questions)

1 Differentiate between single processor and multiprocessor systems

2 What is meant bt system call? Give an example of system call used in process management.

3. Discuss the different states of a process.

4. What is thread ? Explain.

(4x 3 = 12)

PART-B
(Answer any TWO FULL Questions .All Questions carry equal marks)

5(a) Discuss the functions of an Operating System.

(b) What is meant by Process Control Block? Discuss it's significance.

6(a) Explain Context switching in detail.

(b) Discuss the operating Systems used in 3 different computing environments.

7(a) Differentiate between Monolithic and Micro kernel Design of OS.

(b) Briefly discuss Process Creation and Termination procedures.

(9x2 =18)

PART -C

(Answer All Questions)

8. What is meant by Critical Section? Explain.

9. Discuss Semaphores.

10.Explain resource allocation graph with an example

11. What is circular wait?Explain.

(4x 3 = 12)

PART-D

(Answer any TWO FULL Questions .All Questions carry equal marks)

12(a) What is Dining Philosophers Problem?

(b) Consider the following set of processes that arrive at time 0with the length of the CPU burst time given in milliseconds.

Process	Burst Time
P1	24
P2	3
P3	3

Schedule the process using Round Robin Scheduling Algorithm

13(a) Differentiate between Multilevel Queue scheduling and Multilevel feedback queue scheduling.

(b) Show that if the wait and signal operations are not executed automatically then mutual exclusion may be violated.

14(a)Suppose that a system is in unsafe state.Show that it is possible for the process to complete their execution without entering a deadlock state.

(b) What is the Bounded Buffer Problem? Discuss.

(9 x 2 = 18)

PART-E

(Answer any FOUR Questions)

15) Discuss the following allocation algorithms.

(i) First Fit (ii) Best Fit (iii) Worst Fit

16. Given memory partitions of 100 KB, 500 KB, 200 KB, 300 KB, and 600 KB. How would each of the First fit Best-Fit and Worst-Fit algorithms place processes of 212 KB, 417 KB, 112 KB, and 426 KB ?

17. Differentiate between Paging and Segmentation.

18. Explain the difference between internal and external fragmentation.

19. Discuss the Access Matrix used in Protection.

(4 x 10 = 40)