Regulation R18 *Subject code:2P5EA*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous, Accredited by NAAC with 'A' Grade)

B.Tech V Semester Supplementary Examinations, June/July 2023

OPERATING SYSTEMS

(Computer Science Engineering)

Maximum Marks: 70 Date:23.06.2023 **Duration: 3 Hours**

Note: 1. This question paper contains two parts A and B.
2. Part A is compulsory which carries 20 marks. Answer all questions in Part A.
3. Part B consists of 5 Units. Answer any one full question from each Unit.
4. Each question carries 10 marks and may have a, b, c, d as sub questions.

Part-A

All the following questions carry equal marks (10x2M=20 Marks)

1 Define cache coherence?
2 Define graceful degradation
3 Draw the process state diagram
4 Define Starvation?
5 State "fist fit" strategy
6 Define paging
7 State LRU policy.
8 What is the role of a lazy swapper
9 List any 4 file attributes
10 What are the different methods for allocation in a File System?

Part-B

Answer All the following questions. (10MX 5=50Marks)

11 Outline the computing environments in detail. [10]

OR

12 a) Draw and explain the dual mode operations of operating system. [5]
b) Explain the different categories of system programs. [5]

13 Explain the following a) process state diagram [5] b) PCB [5]

OR

14 a) Consider the following set of processes with the length of the CPU burst time given in milliseconds. [5]

Process	BurstTime
P1	15
P2	4
P3	6

The processes are assumed to have arrived in the order p1, p2, p3 all at time 0.

Draw Gantt charts illustrating the execution of these processes using Round Robin (quantum=4) scheduling.

b) explain FCFS scheduling algorithm with suitable example. [5]

15 Explain the banker's algorithms. [10]

OR

16 Discuss paging and structure of page table in detail. [10]

17 Consider the following reference string [5+5]
1 2 3 4 2 1 5 6 2 1 2 3 7 6 3 2 1 2 3 6
Frame size=3 and apply the following page replacement algorithms
a) optimal page replacement b) LRU

OR

18 Discuss the following. [5+5]
a) File operations
b) File system mounting

19 a) Explain the access methods of files. [5]
b) Briefly outline the directory overview. [5]

OR

20 a) Explain the concept of revocation access rights. [5]
b) Explain the concept of goals of protection. [5]