



Regulation R18

Subject code:205DE

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech V Semester Supplementary Examinations, January 2023

OPERATING SYSTEMS

(ECE)

Maximum Marks: 70

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 "first 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 b) PCB [5+5]

OR

- 14 Consider the following set of processes with the length of the CPU burst time given in milliseconds.

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. [10]

- 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
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 [5+5]
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]