R20 Regulation *Subject code: 3P3EF*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech III Semester Supplementary Examinations, December 2024

OPERATING SYSTEMS

(Common to CSE, CSE (AI&ML) & CSE (DS))

Maximum Marks: 70 Date:13.12.2024 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 which carries 10M.
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)		CO	Bloom Tx
1	What are the functions of memory management?	1	L1
2	Draw the memory hierarchy available in operating system?	1	L1
3	Write the entry and exit sections of a critical section?	2	L1
4	Draw process state diagram	2	L1
5	What is a resource-allocation graph?	3	L1
6	Define Swapping.	3	L1
7	What is file sharing?	4	L1
8	Define Thrashing.	4	L1
9	Define seek time.	5	L1
10	What are goals of system protection?	5	L1

Part-B

Answer All the following questions. (5X10M=50Marks)		CO	Bloom Tx
11	Describe different computing environments. [10M]	1	L2
	OR		
12	Define an operating system? State and explain the basic functions and services of an operating system? [10M]	1	L2
13	A. Explain Round Robin scheduling algorithm with example. [5M] B. Explain about different multithreading models. [5M]	2	L2
	OR		
14	What is the important feature of critical section? State the Readers Writers problem and give solution using semaphore. [10M]	2	L2
15	A. Distinguish between internal and external fragmentation. [5M] B. Discuss paging and structure of page table in detail. [5M]	3	L2
	OR		
16	Explain the various methods which we apply for recovery from deadlocks. [10M]	3	L2

17	Explain about the following page replacement algorithms with an example. a)FIFO b)Optimal, c)LRU [10M]	4	L2
	OR		
18	A. Explain different system calls for file operations. [5M] B. Briefly explain about file access methods. [5M]	4	L2
19	A. Write a short note on protection & security? [5M] B. What is the linked list allocation file implementation technique? [5M]	5	L2
	OR		
20	A. Explain the access methods of files. [5M] B. Briefly outline the directory overview. [5M]	5	L2