R20 Regulation *Subject code: 3P3EF & 3P3FD*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech III Semester Supplementary Examinations, July 2024

OPERATING SYSTEM

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

Maximum Marks: 70 Date:31.07.2024 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 various scheduling criteria for CPU scheduling?	2	L1
4	Define entry section and exit section.	2	L1
5	What are the memory management strategies?	3	L1
6	Define deadlock.	3	L1
7	List out the file operations.	4	L1
8	Define thrashing.	4	L1
9	What is indexed allocation	5	L1
10	List the goals of protection?	5	L1
	Part-B		
Answer All the following questions. (5X10M=50Marks)			
11	Explain the following [3+3+4] a) process management b) Memory management c) device management	1	L2
	OR		
12	a) Draw and explain the abstract view of the components of a computer system. [5] b) Discuss the user view and system view of operating. [5]	1	L2
13	a) Explain Round Robin scheduling algorithm with example. [5] b) Explain about different multithreading models. [5]	2	L2
	OR		
14	What is the important feature of critical section? State the Readers Writers problem and give solution using semaphore. [10]	2	L2

15	a) Distinguish between internal and external fragmentation. [5] b) Discuss paging and structure of page table in detail. [5]	3	L2
	OR		
16	Explain the various methods which we apply for recovery from deadlocks. [10]	3	L2
17	Consider the following page reference string. 7,0,2,0,3,0,4,2,3,0,3,2,1,2,0,1,7,0 Assuming three frames, how many page faults would occur in each of the following cases? i)FIFO ii) Optimal iii) LRU [10]	4	L3
	OR		
18	Discuss the following. [3+3+4] i. File operations ii. File system mounting iii. File sharing	4	L2
19	a) Briefly outline the directory implementation overview. [5] b) Overview of mass storage structure. [5]	5	L2
	OR		
20	a) Explain the access methods of files. [5] b) Briefly outline the directory overview. [5]	5	L2