R21 Regulation *Subject code: D123OE1*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

M.Tech III Semester Supplementary Examinations, January 2025

OPERATING SYSTEM

(Power Electronics)

Maximum Marks: 70 Date:01.02.2025 Duration: 3 hours

	Part-A	
All the following questions carry equal marks		(5x4M=20 Marks)
1	Define Operating System. List the objectives of an operating system.	
2	With a neat diagram, explain various states of a process.	
3	Give the Peterson's solution to the Critical section problem.	
4	What are the necessary conditions for the occurrence of deadlock?	
5	What are the various attributes that are associated with an opened file?	
	Part-B	
Answer All the following questions.		(5X10M=50Marks)
6	What are the advantages and disadvantages of using the same system call interface for manipulating both files and devices? [10M]	
	OR	
7	A) Is OS being a resource manager? If so, justify your answer. [5M] B) discuss about operating system structure based on modules. [5M]	
8	Explain the following A) Scheduling Queues [5M] B) Context switching [5M]	
	OR	
9	Explain critical section problem & what is software-based solution to it. [10M]	
10	What is a deadlock? How deadlocks are detected? [10M]	
	OR	
11	Explain the Resource-Allocation-Graph algorithm for deadlock avoidance. [10M]	
12	What is a Virtual Memory? Discuss the benefits of virtual memory technique. [10M]	
	OR	
13	Explain briefly about paging with neat diagram. [10M]	
14	A) List the different file system allocation methods? [5M] B) Define protection in file system. How it is implemented? [5M]	
	OR	
15	Explain: A) Capability based system. [5M] B) Language based protection. [5M]	