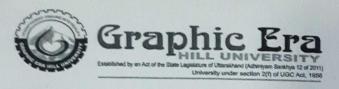
Roll no.....



## Mid Term (Odd) Semester Examination October 2024

Name of the Course and semester: MCA-1ST

ame caper C	f the lode:	e Paper: ADVANCE OPERATING SYSTEM : TMC 104	
ime: 1.5-hour			Maximum Marks: 50
iote: (i) (ii)	Ans	swer all the questions by choosing any one of the sub questions ch question carries 10 marks.	
Q1.	a. Define an operating system and provide an explanation of the layered arc system. (CO1)  OR		(10 Marks) architecture of an operating
	(i) (	Write a short note on following: directory and Sub directory (ii) Boot block, (iii) Inode block (iv) Supe scriptor. (CO1)	er block (v) Group
Q2.	a.	Explain the various file systems used in different operating systems. sequential, direct, and indexed file organization methods. (CO1)  OR	(10 Marks) Compare and contrast
	b.	Explain the access permissions available in LINUX. What do you un (CO1)	derstand by access matrix
Q3.	a.	Differentiate between following (i) System Calls Vs Functions, (ii) V	(10 Marks) Windows Vs Linux (CO1)
	b.	Explain the different types of attributes and operations related to file	. (CO1)
Q4.	a.	Explain the different types of real time operating system. Also expla characteristics of RTOS (CO2)  OR	(10 Marks) in the different
	b.	Consider a real-time system with three tasks, each with its execution tasks are scheduled using the rate monotonic scheduling algorithm.  Task A: C = 2 ms, T = 8 ms  Task B: C = 3 ms, T = 6 ms  Task C: C = 1 ms, T = 12 ms  Check whether the task can be scheduled or not (CO2)	time (C), period (T). The
Q5.	a.	A disk has 200 cylinders, numbered from 0 to 199. The disk arm is a The queue of pending disk requests contains the following cylinder 18, 124 Calculate the total head movement using the First come first Seek Time First (SSTF) disk scheduling algorithm. (CO2)	numbers: 37, 83, 27, 122,

b. Write a short note on (i) Data Protection and security goals of operating system,

(ii) Access permissions of files and directories. (CO2)