Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VI • EXAMINATION – SUMMER 2013

Subject Code: 163101 **Date: 31-05-2013**

Subject Name: Operating System Design

Time: 10.30 am - 01.00 pm **Total Marks: 70**

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1	**(a)**	Explain the following system calls 1)LSEEK 2)DUP	**07**
	(b)	Explain named pipe and unnamed pipe system call with example	**07**
Q.2	**(a)**	Define following terms: 1)File descriptor 2)superblock 3)Delay write 4)Indirect blocks	**07**
	(b)	Explain algorithm for Allocation of In-Core Inodes	**07**
		OR	
	(b)	Explain the creation of special files with it algorithms	**07**
Q.3	**(a)**	Define kernel and explain the block diagram of system kernel	**07**
	(b)	Explain bread and breada algorithms	**07**
		OR	
Q.3	**(a)**	1) What is buffer cache write the advantages of buffer cache	**04**
		2) Write an algorithm to release the buffer	**03**
	(b)	Explain the unlink system calls with it algorithm	**07**
Q.4	**(a)**	Explain process States and Transitions with diagram	**07**
	(b)	Explain context switching in operating system	**07**
		OR	
Q.4	**(a)**	Explain attaching a region to a process	**07**
	(b)	Explain and write sleep algorithm in operating system	**07**
Q.5	**(a)**	Explain process creation with its algorithms	**07**
	(b)	Explain system boot and init process	**07**
		OR	
Q.5	**(a)**	Explain the process scheduling algorithm	**07**
	(b)	What is signal? How kernel handles different signals in OS	**07**

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