

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 **07**
1)LSEEK 2)DUP
- (b)** Explain named pipe and unnamed pipe system call with example **07**
- Q.2 (a)** Define following terms: **07**
1)File descriptor 2)superblock 3)Delay write 4)Indirect blocks
- (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**
