

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VI • EXAMINATION – SUMMER • 2014****Subject Code: 163101****Date: 30-05-2014****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) Draw and explain the block diagram of system kernel. **07**
(b) Explain retrieval of buffer in detail. **07**
- Q.2** (a) Draw layered architecture of UNIX system and explain UNIX File system. **07**
(b) Explain INODE and SUPER BLOCK in detail. **07**
- OR**
- (b) Explain Block Read Ahead algorithm. **07**
- Q.3** (a) Explain algorithm for conversion of path name to an inode (“namei”) **07**
(b) What is system call? Explain Open system call. **07**
- OR**
- Q.3** (a) Explain reading & writing of pipes. **07**
(b) Explain the algorithm for ialloc for assigning new inodes. **07**
- Q.4** (a) What is Signals? Explain the handling of Signals by Kernel. **07**
(b) Explain Mounting & Unmounting of file system. **07**
- OR**
- Q.4** (a) What is Context of process? Explain Saving The Context of Process. **07**
(b) Define System Boot process and write an algorithm for Booting the System. **07**
- Q.5** (a) Write and explain fork algorithm. **07**
(b) Explain process states and transition with necessary diagram. **07**
- OR**
- Q.5** (a) Explain Process Scheduling. **07**
(b) Explain the following commands in Unix OS. **07**
1) chmod (2) ls -ld (3) mkdir
