

### **Assignment 1: Unit 1**

1. Explain the architecture of the UNIX System.  
(Draw layered dig. And explain each)
2. Draw and explain block dig of kernel  
(File subsystem, process control subsystem etc.)
3. Explain with example: Building block primitives.
4. What is a buffer? Explain the structure of the buffer header.
5. Draw and explain data structure of file subsystem.  
( File descriptors, file table and Inode table)
6. Explain different scenarios for retrieval of buffer.
7. Write and explain following algorithms:
  - a. Buffer allocation (bread)
  - b. Releasing a buffer (brelse)
  - c. Reading disk block (bread)
  - d. Block read ahead (breada)
  - e. Writing a disk block (bwrite)
8. Explain advantages and disadvantages of buffer cache.