



SF-8332

B. E. III (Sem. VI) Examination

May / June – 2011

Operating System Design

Time : Hours]

[Total Marks : 75

Instructions :

(1)

नीचे दृशावेक निशानीवाणी विगतो उत्तरवडी पर अवश्य कभवी.
Fillup strictly the details of signs on your answer book.

Name of the Examination :
B. E. 3 (Sem. 6)

Name of the Subject :
Operating System Design

Subject Code No. : 8 3 3 2 Section No. (1, 2,.....): Nil

Seat No. :

Student's Signature

1 (a) Fill in the blanks : 10

- (i) _____, created internally by the kernel when the system is booted, is the only process not created via fork.
- (ii) Every directory contains at least two entries namely _____ and _____.
- (iii) _____ contains description of the disk layout of the file and other file attributes.
- (iv) The system call _____ creates special files in the system.
- (v) Once data is read from _____, it can not read again.
- (vi) The _____ module allocates the CPU to processes.
- (vii) The processes whose parent is terminated are inherited by _____ process.
- (viii) Processes can exercise crude control of their scheduling priority by using the _____ system call.
- (ix) The _____ is a short integer, which identifies the file as a load module and enables the kernel to distinguish run-time characteristics about it.
- (x) Pipe can not use _____ blocks.

(b) Explain the layered architecture of UNIX system. 5

(c) Explain the Unix file system. 4

- 2 (a) Explain the difference between Interrupt and exception. 4
 (b) Explain buffer header. 5
 (c) What are the fields of process table? 5

OR

- 2 (a) What information stored in disk inode? 4
 (b) What are the fields stored in super block? 5
 (c) What are the disadvantages of buffer cache? 5

- 3 (a) Explain stat and fstat system call. 6
 (b) Explain reading and writing Pipes. 8

OR

- 3 (a) Describe algorithm for namei. 6
 (b) explain mounting and unmounting file system. 8

- 4 (a) Explain the layout of system memory in brief. 6
 (b) Explain the sleep algorithm. 8

OR

- 4 (a) Describe the fields stored in 'U' area. 6
 (b) Draw and explain process state transition diagram. 8

- 5 (a) Explain working of shell program. 6
 (b) Write the algorithm for exit. 8

OR

- 5 (a) Write algorithm for recognizing Signals. 6
 (b) Explain the image of an executable file. 8
