

Total No. of Questions : 10]

SEAT No. :

P2606**[5153]-582**

[Total No. of Pages : 2

T.E. (Computer Engineering)
OPERATING SYSTEMS DESIGN
(2012 Course) (Semester-I) (310242) (End Semester)

*Time : 2½ Hours]**[Max. Marks : 70**Instructions to the candidates:*

- 1) *Answers the Q.1 or Q.2 and Q.3 or Q.4 and Q.5 or Q.6 and Q.7 or Q.8 and Q.9 or Q.10*
- 2) *Figures to the right indicates full marks.*

Q1) a) How to convert a pathname into a inode number? **[5]**

b) What are scenarios to allocate a buffer for disk block using getblk() algorithm? **[5]**

OR

Q2) a) Explain following algorithms of Buffer cache. **[6]**

i) getblk()

ii) Brelease()

b) Explain in details six steps of Android boot process. **[4]**

Q3) a) Explain with neat diagram Linux memory management. **[5]**

b) Write short note on “Hybrid system with swapping and demand paging”. **[5]**

OR

Q4) a) Explain with neat diagram address translation in paging. **[5]**

b) Write in short-allocating and freeing swap space. **[5]**

Q5) a) Explain working of Sockets and related system calls. **[6]**

b) What is problem of Multiprocessor systems and explain its solution with

i) Master Slave processors and

ii) Semaphores. **[10]**

OR

P.T.O.

- Q6)** a) What do you mean by pipe? Explain anonymous and named/FIFO pipe. [10]
 b) How process is traced with ptrace system call? [6]

- Q7)** a) How to make a USB bootable with any open source tool? [9]
 b) What is make utility? Explain it with example. Consider your own makefile. [7]

OR

- Q8)** a) What are the EFI and UEFI? Explain with an application. [8]
 b) Write short notes on [8]
 i) Mork Manager.
 ii) Shim manager.

- Q9)** a) Draw and explain the android os architecture. [8]
 b) Write short notes on [10]
 i) Real time scheduling
 ii) Multiprocessor scheduling.

OR

- Q10)** a) Enlist different characteristics of real time system and explain it. [9]
 b) Write short notes on [9]
 i) Palm OS
 ii) Master/Slave Architecture
 iii) Frame of Reference.

* * *