

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.

