

Total No. of Questions :10]

SEAT No. :

P2891

[Total No. of Pages :2

[4958] - 1084

T. E. (Computer Engineering)

OPERATING SYSTEMS DESIGN

310242:(Semester - I) (2012 Course)(End Sem.)

Time : 2.30 Hours]

[Max. Marks :70

Instructions to the candidates:

- 1) Answer the Q.1 OR Q2, Q3 OR Q4, Q5 OR Q6, Q7 OR Q8 Q9 OR10.
- 2) Neat diagrams must be drawn wherever necessary.
- 3) Figures to the right side indicate full marks.

Q1) a) Explain following algorithms of Buffer cache **[6]**

- i) getblk
- ii) brelease

b) Explain Unix file system structure. **[4]**

OR

Q2) a) Is operating system itself a process? Justify your answer. **[5]**

b) Explain in details six steps of Android boot process. **[5]**

Q3) a) Explain with example data structures used for demand paging. **[5]**

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

OR

Q4) a) Explain with neat diagram Linux memory management. **[4]**

b) Write in short - allocating and freeing swap space. **[6]**

P.T.O.

- Q5) a)** Explain shared memory with its system calls. [8]
b) What is Inter - process communication? Why it is important in operating system? [8]

OR

- Q6) a)** What do you mean by pipe? Explain anonymous and named / FIFO pipe. [8]
b) What is semaphore? Provide solution to producer - consumer problem using semaphore. [8]

- Q7) a)** What is make utility? Explain it with example. Consider your own makefile. [8]
b) Compare grep and awk utilities. State one example of each. [8]

OR

- Q8) a)** What are the EFI and UEFI? Explain with an application. [8]
b) Write AWK script to generate a report on student database. [8]

- Q9) a)** What is multiprocessor system? List the types of multiprocessor system. [6]
b) What is UNIX Free - BSD scheduler? List different priority levels of the same. [6]
c) Explain different types of approaches for real time scheduling. [6]

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

