

Total No. of Questions : 10]

SEAT No. :

P3308

[Total No. of Pages : 2

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T.E. (Computer Engineering) (Semester - I)
OPERATING SYSTEM DESIGN
(2012 Pattern)

Time : 2½ Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) Solve Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6, Q.7 or Q.8, Q.9 or Q.10.
- 2) Neat diagrams must be drawn wherever necessary.

Q1) a) State and Explain file allocation methods. [5]
b) Explain *getblock()* algorithm. [5]

OR

Q2) a) Explain structure of regular files in UNIX System V. [5]
b) Explain *namei* algorithm. [5]

Q3) a) Draw and explain process state transition diagram with 9 different states. [6]
b) Explain context of a process. [4]

OR

Q4) a) Compare paging and segmentation in details. [5]
b) Explain Bankers Algorithm. [5]

Q5) a) What is Inter Process Communication? Explain process tracing and *ptrace()* system call. [6]
b) Write down a code snippet for client server communication (TCP/UDP) using sockets. [10]

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OR

Q6) a) Explain System V IPC mechanisms in detail: [8]

- i) Messages
 - ii) Shared Memory
 - iii) Semaphores
- b) Explain following methods to tackle problems in multiprocessor architecture [8]

- i) Using Master/Slave Processors
- ii) Using Semaphores

Q7) a) Explain *make* utility with example. [8]
b) Explain *grep* and its variations with example. [8]

OR

Q8) a) Explain *awk* utility with example. [8]
b) Explain in detail, how to make USB bootable with any open source tool. [8]

Q9) a) Explain Real Time Systems and it's characteristics in details. [6]
b) Draw and explain Android OS Architecture. [6]
c) Explain in details : scheduling in Linux. [6]

OR

Q10) a) Write a short note on any four of the following: [12]

- i) Palm OS
 - ii) Microsoft windows CE
 - iii) Securing handheld systems
 - iv) Frame of reference
 - v) Master Slave Architecture
- b) What is embedded system? What are the characteristics of embedded system? List some examples. [6]



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