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]**