

Total No. of Questions : 10]

SEAT No. :

P3308

[Total No. of Pages : 2

[5353]-182

**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]**

**P.T.O**

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 its 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]

