

Total No. of Questions :12]

SEAT No. :

P798

[Total No. of Pages : 3

[4659] - 210

B. E. (I.T.) (Semester - I)

D : ADVANCED OPERATING SYSTEMS

(2008 Pattern) (Elective - I)

Time : 3 Hours]

[Max. Marks : 100

Instructions to the candidates:

- 1) *Answer any three questions from each section.*
- 2) *Answer to the two sections should be written in separate books.*
- 3) *Figure to the right indicates full marks.*
- 4) *Assume suitable data, if necessary.*

SECTION - I

- Q1)** a) What is mailbox? Give its significance & explain how it works.
Explain functional specification of CREATEMBOX. [8]
- b) Explain following Unix commands with suitable eg. [10]
- | | |
|------------|-------------|
| i) chown | ii) chmod |
| iii) mount | iv) unmount |
| v) useradd | |

OR

- Q2)** a) Define operating system. Discuss various architectures of O.S. [10]
- b) Discuss various system calls for process management. [8]
- Q3)** a) What is Multi tasking operating system? How it is different from multi processing operating system? Draw & explain process state transition diagram in KMOS. [8]
- b) Discuss the various lists maintained for KMOS. [8]

P.T.O.

OR

- Q4)** a) Enlist various functions of KMOS. Explain functional specifications of KMOSSTART and DISPATCH. [8]
b) Write the structure of PCB in KMOS. Discuss use of these fields. [8]
- Q5)** a) Explain different multiprocessor interconnection types with diagrams. [8]
b) Discuss UMA, NUMA and NORMA architecture. [8]

OR

- Q6)** a) Discuss different types of Multi Processor Operating Systems. [8]
b) What are differences between threads and processes? What are different ways to achieve multiprocessor synchronization? [8]

SECTION - II

- Q7)** a) Explain the concept of kmalloc, vmalloc with eg. How they are different from malloc(), calloc(). [10]
b) What is zone? Explain different zone types with diagram. [8]

OR

- Q8)** a) What is slab? Explain the concept of slab allocator and deallocator wrt Linux operating system. [10]
b) Explain the concept of High Memory mappings and its types. [8]
- Q9)** a) What is device driver? Explain various disk device driver access strategies. [8]
b) What is I/O scheduler? Explain different modes to monitor I/O. [8]

