Total No. of Questions : 12]

SEAT No. :

P1438

[Total No. of Pages : 3

[4759]-191

B.E. (IT)

ADVANCED OPERATING SYSTEM

(2008 Course) (Semester - I) (Elective -I)

Time : 3 Hours] *[Max. Marks :100*

Instructions to the candidates:

1) ***Answer three questions from each section.***
2) ***Answers to the two sections must be written in separate answer-books.***
3) ***Neat diagrams must be drawn wherever necessary.***
4) ***Figures to the right indicate full marks.***
5) ***Assume suitable data wherever necessary.***

SECTION - I

Q1) a) Explain any five Unix commands for system administration. **[10]**

b) Explain any two Inter process communication mechanisms. **[8]**

OR

Q2) a) Differentiate between multiuser and multitasking O.S. Explain the architecture of operating system. **[10]**

b) Give the significance of process synchronization primitives. Explain any two process synchronization primitives. **[8]**

Q3) a) Enlist and explain services performed by Multitasking OS. **[8]**

b) Explain the concept of Mailbox in multitasking OS. Give the functional specification of primitive CreateMBox ( ). **[8]**

OR

Q4) a) Explain the various system lists maintained by KMOS. **[8]**

b) Draw and explain process state transition diagram in KMOS. **[8]**

P.T.O.

Q5) a) Discuss the design issues of multiprocessor systems. **[8]**

b) Enlist various interconnection types. What are the differences between separate supervisors and Master-Slave Systems? **[8]**

OR

Q6) a) Discuss the various multiprocessor design considerations. **[8]**

b) Explain the wave scheduling with eg. **[8]**

SECTION - II

Q7) a) Define Zones. Describe the data structure required for zone management. **[10]**

b) Explain the following system calls with eg. **[8]**

i) kmalloc ( )

ii) kfree

OR

Q8) a) Differentiate between kmalloc ( ) and vmalloc ( ) system calls with example. **[10]**

b) Explain with neat diagram slab layer allocator. **[8]**

Q9) a) Discuss I/O structure and role of DMA. **[8]**

b) Explain the characteristics of I/O devices. **[8]**

OR

Q10)a) Explain the concept of disck catching with suitable example. **[8]**

b) What is an I/O interface? Explain in detail its type. **[8]**

Q11)a) Explain system calls **[8]**

i) mount

ii) read

iii) I seek

iv) link

b) Explain in detail VFS. **[8]**

OR

Q12)Write short notes on following: **[16]**

a) Slab coloring.

b) File descriptors.

c) Contiguous memory management.

d) File Unification.

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