Total No. of Questions : 8]

SEAT No. :

P 3282

[Total No. of Pages : 2

[5353] - 155
T.E. (E&TC)
SYSTEM PROGRAMMING AND OPERATING SYSTEM
(2012 Pattern)

Time :2½ Hours] ***[Max. Marks :70***

Instructions to the candidates:

1) ***Answer Q1 or Q2, Q3 or Q4, Q5 or Q6 and Q7 or Q8.***
2) ***Neat diagrams must be drawn wherever necessary.***
3) ***Figures to the right side indicate full marks.***
4) ***Assume Suitable data if necessary.***

Q1) a) Explain the Analysis and the synthesis phase in a language processor. **[7]**

b) List and Explain advance macro facilities. **[7]**

c) List the code optimization techniques and explain any 2 with example. **[6]**

OR

Q2) a) Explain terms: preprocessor, translators, linkers and loaders. **[7]**

b) List the different loader schemes. Explain any 2 loader schemes. **[7]**

c) Explain different types of statements in assembly language. **[6]**

Q3) a) Explain the Bankers Algorithm for deadlock avoidance with example. **[6]**

b) Explain the Producer-Consumer and the Reader- Writer IPC problems. **[6]**

c) Draw the process state diagram and explain the process states. **[6]**

OR

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Q4) a) Explain the difference between deadlock prevention and avoidance. Explain the reasons why deadlocks to occur. **[6]**

b) List and explain the types of operating systems. **[6]**

c) Explain with example the First Come First serve and the round robin process scheduling algorithms. **[6]**

Q5) a) Explain with example First In First Out Page replacement algorithm. **[6]**

b) List the design issues for paging systems and explain any 2. **[6]**

c) Compare paging and segmentation. **[4]**

OR

Q6) a) Explain the concept physical address, logical address, pages and page frames. Explain the process of deriving physical address from the logical address. **[6]**

b) Explain with example First Fit, Best Fit and Worst Fit memory allocation algorithms with examples. **[6]**

c) Compare internal and external fragmentation. **[4]**

Q7) a) Explain memory mapped I/O and direct memory access. **[6]**

b) Explain with diagram I/O software layers. **[6]**

c) Explain file access methods the file and directory operations. **[4]**

OR

Q8) a) Write short note on **[12]**

i) RAID disk and magnetic disk.

ii) Optical disks

iii) Linux Ext 2 file system

b) Explain the concept of i-node **[4]**

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