P1311

SEAT No. :

[4858] - 1041

T.E. (E&Tc) (End Semester)

SYSTEM PROGRAMMING & OPERATING SYSTEMS

(2012 Pattern)

Time : 3 Hours] *[Max. Marks : 70*

Instructions to the candidates:

1) Answer Q1 or Q2, Q3 or Q4, Q5 or Q6, 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) Describe the design of Pass 1 of two pass assembler. **[7]**

b) Mention different data structures used for language processing. Explain any one data structure in detail. **[7]**

c) What do you mean by translated origin, linked origin and load origin? Explain with examples. **[6]**

OR

Q2) a) Explain the advance macro facilities **[7]**

   i) Alteration of flow of control during expansion

   ii) Expansion time variables

   iii) Attributes of parameters

b) What are loaders? List the different type of loader schemes. Explain Compile and Go-loader scheme. **[7]**

c) Explain the different phases of language processing. **[6]**

Q3) a) What is CPU scheduling? Explain 2 different scheduling algorithms with examples. **[6]**

b) State the conditions for deadlock. **[6]**

c) Explain process and threads in detail. **[6]**

P.T.O.

Q4) a) Write short notes on: **[6]**

      i) System Call

      ii) Inter process communication

    b) Banker's algorithm is used for Deadlock avoidance. Explain. **[6]**

    c) What is Real time operating system? Compare hard Real time system and Soft real time system. **[6]**

Q5) a) Explain the difference between Internal and External fragmentation. Which one occurs in paging systems? **[6]**

    b) Explain in brief the memory allocation algorithms with examples. **[6]**

    c) List the page replacement algorithms and explain any one. **[4]**

OR

Q6) a) Explain demand paging. Also explain hardware support required to support demand paging. **[6]**

    b) Explain differents methods/ways in which memory allocation can be done. **[6]**

    c) Explain the concept of segmentation. **[4]**

Q7) a) Write short notes on: **[6]**

      i) Directory structure

      ii) File management system

    b) Explain Linux Ext 3 file system with diagram. **[6]**

    c) Write short note on RAID disk. **[4]**

OR

Q8) a) Write short note on file management under UNIX. **[6]**

    b) Explain file directories and directory operations. **[6]**

    c) Explain various file operations. **[4]**

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