[4459] – 187

Seat No.	

T.E. (E & TC) Examination, 2013
SYSTEM PROGRAMMING AND OPERATING SYSTEM
(2008 Pattern)

Time : 3 Hours Max. Marks :100

Instructions : *1) Answers to the **two** Sections should be written in **separate** books.*
*2) Use of logarithmic tables slide rule, Mollier charts, electronic pocket calculator and steam tables is **allowed**.*
*3) Assume **suitable** data, if **necessary**.*
*4) 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**, **Q.11** or **Q.12**.*

SECTION – I

1. a) What are language processing activities ? Give details of each activity. **8**
   b) What is a assembler ? Explain two pass assembler along with the schematic diagram. **8**

OR

2. a) What is scanning and parsing ? Briefly explain. **8**
   b) What are different data structures used for language processing ? Explain any one data structure in detail. **8**

3. a) What are the data structure used for the design of macro processing ? **8**
   b) How to handle macro cells within macros ? **8**

OR

4. a) What is interpreter ? Explain the role of interpreter with suitable example. **8**
   b) What are different features of machine dependent and independent macros ? **8**

5. a) Explain following : **16**
   1) Central loaders
   2) Relocation loaders
   3) Absolute loaders
   4) Sub routine linkers.

OR

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6. b) Explain following : **16**
   1) Editor
   2) User interface
   3) Interpreter
   4) Complier.

SECTION – II

7. a) What is purpose of system cells in an operating system ? List types of system calls and explain any one of them. **8**

   b) What are deadlocks ? Describe in brief various methods for deadlock prevention. **8**

OR

8. a) Explain ostrich algorithm. **8**

   b) Explain functions of an operating system. **8**

9. a) Explain the virtual memory system with suitable diagram. **8**

   b) Explain page fault for
      i) First in first out
      ii) Least recently used. **8**

OR

10. a) Mention page replacement algorithm. Explain any one. **8**
    b) Explain how memory management is achieved in operating system. **8**

11. a) Explain how memory management is achieved in Unix Operating System. **10**
    b) Explain interrupt processing is managed for input and output. **8**

OR

12. a) Explain different I/O software layers. **10**
    b) Explain :
       a) File structure
       b) File management. **8**