Total No. of Questions : 8] *[Total No. of Printed Pages :2*

MCSE - 204

M.E./M.Tech., II Semester

Examination, July 2015

System Programming

Time : Three Hours

Maximum Marks : 70

Note : i) Attempt any five questions.

ii) All questions carry equal marks.

1. a) State the four basic tasks a macro instruction processor performs.
   b) Draw macro instruction structure. Give example with argument and state the output.

2. a) Draw and explain the structure of compiler.
   b) Write the algorithm for syntax analysis phase.

3. a) Explain the structure of following data bases of compiler.
      i) Identifier table
      ii) Matrix database
   b) Create intermediate form for the following arithmetic statement in the form of parse tree and matrix.
      Cost=Rate*(Start-Finish)+2*Rate*(Start-Finish-100)

4. a) How to improve the assembler design?
   b) Define the following terms :
      i) Binder
      ii) Dynamic loading
      iii) Linking editor
      iv) Overlay

5. a) Explain the structure of Macro Definition Table (MDT) and Argument List Array (ALA) with the help of example.
   b) What are the design issues in distributed operating system? Explain with example.

6. a) Write an algorithm for distributed control.
   b) Explain code generation for pipelined machines with example.

7. a) Explain mechanism for building distributed file system with suitable example.
   b) Explain structure of multiprocessor operating system with suitable example.

8. Write short notes on the following :
   a) Dynamic Programming code generation algorithms
   b) Register allocation techniques
   c) Intermediate code interface
   d) Symbol table design

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