17634

21415
3 Hours / 100 Marks

Seat No.

Instructions – (1) All Questions are *Compulsory.*

(2) Answer each next main Question on a new page.

(3) Illustrate your answers with neat sketches wherever necessary.

(4) Figures to the right indicate full marks.

(5) Assume suitable data, if necessary.

(6) Use of Non-programmable Electronic Pocket Calculator is permissible.

Marks

1. **Attempt any FIVE of the following:** **20**

a) Explain and draw the neat labelled diagram of foundation of system programming.

b) Explain the function of Operating System.

c) Explain searching and describe any one method in detail.

d) Explain various types of assembly statements.

e) Explain dynamic loading mechanism in loader.

f) Describe radix sort with suitable example.

g) Draw the parse tree for the following expression.

C = V * B + V * P

Marks

2. **Answer any TWO of the following:** **16**

   a) Explain four components of system programming.

   b) Draw the flowchart for Pass 2 of a two pass assembler.

   c) Explain macroprocessor along with conditional macro with example.

3. **Attempt any TWO of the following:** **16**

   a) Explain different types of Macro Arguments.

   b) Explain basic function of Macro Processor along with its database used.

   c) Explain Pass I Algorithm of two pass macroprocessor.

4. **Attempt any TWO of the following:** **16**

   a) Explain top down passes with example.

   b) Explain phases of a compiles according to the problem statement.

   c) Explain main functions of storage Assignment along with database used.

5. **Attempt any TWO of the following:** **16**

   a) Explain with matrix optimization for the expression and draw a tree diagram.

      Cost $= a * (b - c) + 2 * a * (b - c)$

   b) For the given expression generate the machine dependent and independent code
      cost = Rate * (start - finish) + 2 * Rate *
      (start - finish)

   c) Explain any two loaders schemes.

Marks

6. **Attempt any TWO of the following:** **16**

    a) Explain Bindes and dynamic Bindes.

    b) Give the format of database used in loader.

    c) Explain address calculation sort assume suitable data and apply on it.

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