(3 Hours)   Total Marks: 80

N.B.: (1) Question No. 1 is compulsory.
(2) Attempt any three questions out of remaining five questions.

Q1. (a) Define loader. Explain functions of loader.   (05)
    (b) What are different features of macro?   (05)
    (c) Compare compilers and interpreters.   (05)
    (d) Explain synthesized and inherited attributes.   (05)

Q2. (a) With reference to assembler, explain the following tables with suitable example.   (10)
    (i) POT   (ii) MOT   (iii) ST   (iv) LT   (v) BT
    (b) Design a predictive parser for the given grammar. Mention all the steps   (10)

$$E \rightarrow TQ$$
$$T \rightarrow FR$$
$$Q \rightarrow +TQ | -TQ | E$$
$$R \rightarrow *FR | /FR | E$$
$$F \rightarrow (E) | id$$

Q3. (a) Explain pass 1 of macro processor with flowchart.   (10)
    (b) What is code optimization? What are various strategies for code optimization?   (10)

Q4. (a) Explain the design of the absolute loader and mention all the data structures in detail.   (10)
    (b) What are different types of intermediate code? Explain implementation of three address code.   (10)

Q5. (a) Write a note on Input buffering and also explain role of lexical analyser.   (10)
    (b) Explain various storage allocation strategies.   (10)

Q6. Write a note on:
    (a) DAG   (05)
    (b) Lex and YACC   (05)
    (c) Syntax directed translation   (05)
    (d) Text editors   (05)

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