

Con. 1794-06.

(REVISED COURSE)

TV-8490

(3 Hours)

[Total Marks : 100]

- N.B. : (1) Question No. 1 is **compulsory**.
 (2) Attempt any **four** questions out of remaining **six** questions.
 (3) Assumptions made should be **clearly stated**.
 (4) **Figures** to the right indicates **full marks**.
 (5) Assume **suitable** data wherever **required** but **justify** the same.

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|----|-----|--|----|
| 1. | (a) | Explain the design of Direct linking loader. | 10 |
| | (b) | Consider the regular expression $(a b)^* abb$. Construct the NFA for this expression and convert this NFA to minimized DFA. | 10 |
| 2. | (a) | Explain design of one pass macro preprocessor to handle nested macro calls. What are the different databases needed ? Explain. | 10 |
| | (b) | Explain with help of flowchart and data structures working of single pass assembler. | 10 |
| 3. | (a) | Explain Operator precedence parser with suitable example. | 10 |
| | (b) | (i) Discuss various errors detected in each phase of compiler. | 5 |
| | | (ii) Write short notes on 'Java compiler environment'. | 5 |
| 4. | (a) | Write sequence of steps involved in dynamic debugging of program. | 8 |
| | (b) | Write short notes on : (i) Run time storage organization | 6 |
| | | (ii) SPARC Assembler. | 6 |
| 5. | (a) | What are different intermediate code form used in compiler ? Explain. | 8 |
| | (b) | (i) Explain the design of Absolute loader. | 8 |
| | | (ii) What are assembler directives ? Explain with examples. | 4 |
| 6. | (a) | Differentiate between linkage editor and linking loader. | 8 |
| | (b) | (i) Explain conditional macro expansion with suitable example. | 6 |
| | | (ii) What is binding ? Explain static and dynamic binding. | 6 |
| 7. | (a) | Explain with the help of memory, data formats, registers, instruction formats, addressing modes of traditional CISC machines. | 8 |
| | (b) | Write short notes on : (i) LEX and YACC. | 12 |
| | | (ii) Recursive descent parser. | |