Sem VI IT Computer System Programming 26/5/06

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**.

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 prepocessor 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 and 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 : 12
(i) LEX and YACC. (ii) Recursive descent parser.