

III B.Tech II Semester Supplementary Examinations, April/May 2005
LANGUAGE PROCESSORS
(Common to Computer Science & Engineering and Information Technology)

Time: 3 hours**Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

1. (a) Write regular expressions and NFA for the following patterns. Use auxiliary definitions where convenient.
 - i. The set of words having a,e,i,o,u appearing in that order , although not necessarily consecutively.
 - ii. Comments as in C.(b) What is the difference between pass and a phase.
2. (a) Construct operator precedence parser for the following grammar for reference expressions.
$$R \rightarrow R'1'R|RR|R^*|(R)|a|b.$$
(b) What are the common conflicts that can be encountered in various shift reduce parsers.
3. (a) What is an LR(0) grammer.
(b) Construct SLR passing table for the following grammer
$$R \rightarrow R'1'R|RR|R * |(R)|a|b$$
4. (a) What are the advantages and disadvantages of Structural equivalence. Explain through example.
(b) What are the advantages and disadvantages of Name equivalence. Explain through examples.
5. (a) Which data structure will be used to implement a symbol table in an efficient way? Give reasons.
(b) Discuss and analyze about all the allocation strategies in run-time storage environment .
6. (a) Translate the expression $-(a+b)*(c+d)+(a+b+c)$ into quadruple, triple and indirect triple.
(b) Explain in detail the optimizator tecnique “Strength Reduction”.
7. (a) Define Address Descriptor and Register Descriptor.
(b) Why Next-use information is required for generating Object code?
(c) What are the various object code forms.

8. (a) Explain the memory requirement for variant I and variant II of intermediate code of an assembler design.
- (b) How Declarative stat and Assembler directives are processed by an assembler.

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