St. Joseph's Institute of Technology

St. Joseph's College of Engineering

Department of CSE/IT

Assignment-II

CS6660-Compiler Design

Part-A

1) Define Tokens, Patterns and Lexemes
2) Define regular expressions and write a regular expression for an identifier.
3) List the rules for constructing regular expressions?
4) What are the conditions to satisfy for NFA?
5) Draw a NFA for a*|b*
6) What is Lexical Analysis?
7) List the operations on languages.
8) Define a context free grammar.

Part-B

1) Explain in detail about the role of Lexical analyzer with the possible error recovery actions. (16)
2) Prove that the following two regular expressions are equivalent by showing that minimum state DFA's are same.(16)

Problem 1	i) (a|b)* ii) (a*|b*)*
Problem 2	i) (a/b)* ii) (a*/b*)

3) a) Describe the specification of tokens and how to recognize the tokens(8)
   b) Explain in detail about input buffering.(8)

4) a) Write LEX specifications and necessary C code that reads English words from a text file and response every occurrence of the sub string 'abc' with 'ABC'. The program should also compute number of characters, words and lines read. It should not consider and count any lines(s) that begin with a symbol '#' (12)
   b) Write a short note on LEX.(4)