Roll No. ....

SEVENTH SEMESTER

B.E.(IT)

MID SEMESTER EXAMINATION

SEPTEMBER-2010

IT-403 COMPILER AND TRANSLATOR DESIGN

Time: 1 Hour 30 Minutes

Max. Marks : 20

Note : Answer **ALL** questions.

Assume suitable missing data, if any.

1 What is Analysis-Synthesis model of compilation? Which phases of compilation constitute the analysis of source code and which phases constitute the synthesis part? 2+2

2 Draw the transition diagram to represent identifiers and keywords. 2

3 Consider the context free grammar

$S \rightarrow SS + /SS */a$

(i) Show how the string aa + a* can be generated by this grammar. 2

(ii) Construct a parse tree for this string. 2

(iii) What language is generated by this grammar? Justify your answer. 2

4 Describe different parts of a Lex program. 2

5 Draw NFA which recognises the regular expression aa */bb*. 2

6 Write the pseudo code for LR parsing algorithm. 4