Code: 9A05504

R9

B.Tech III Year I Semester (R09) Supplementary Examinations, May 2013
COMPILER DESIGN
(Computer Science and Engineering)

Time: 3 hours   Max Marks: 70

Answer any FIVE questions
All questions carry equal marks
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1 (a) What is compiler and what is cross computer?
   (b) Define regular expression. Give examples of regular expressions.

2   Eliminate left recursion for the following grammar:
$$E \rightarrow E+T|T$$
$$T \rightarrow T*F|F$$
$$F \rightarrow (E)| id$$

3   Construct the GOTO graph whose states are canonical sets of LR(1) items for the following grammar:
$$S \rightarrow CC$$
$$C \rightarrow cC$$
$$C \rightarrow d$$

4 (a) Explain about syntax directed definitions in detail.
   (b) Explain in detail about the construction of syntax trees.

5 (a) Explain the term run time support and storage organization.
   (b) What is activation record? Explain each of its fields.

6 (a) What is meant by loop optimization?
   (b) What is peephole optimization? Discuss.

7 (a) What are dominators? Explain with example.
   (b) Write the algorithm for code motion.

8 (a) Explain in detail about global register allocation.
   (b) Differentiate among source code, intermediate code and target code.

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