

Registration no:

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Total Number of Pages: 01

B.TECH
PCCS4305

6th Semester Regular Back Examination 2016-17

COMPILER DESIGN

BRANCH(S): IT, ITE

Time: 3 Hours

Max Marks: 70

Q.Code- Z680

Answer Question No.1 which is compulsory and any five from the rest.

The figures in the right hand margin indicate marks.

- Q1 Answer the following questions: (2 x 10)**
- a) Differentiate between compilers and cross compiler?
 - b) List the role of error handler.
 - c) What do you mean by Passes?
 - d) Define syntax analysis with an example.
 - e) Write the characteristics of syntax analysis.
 - f) What is optimization? List different methods for code optimization.
 - g) What do you mean by ambiguity? Explain with an example.
 - h) What do you mean by semantics of a programming language?
 - i) Differentiate between NFA and DFA?
 - j) What do you mean by leader in the context of flow graph?
- Q2 a) Discuss the role of lexical analyzer in detail. (5)**
b) Construct the minimized DFA for the regular expression $(0+1)^*(0+1)$. (5)
- Q3 Describe the various phases of compiler and trace the program segment 4: * + = c b a for all phases. (10)**
- Q4 a) Explain the error recovery strategies in syntax analysis. (5)**
b) Define three-address code. Describe the various methods of implementing three address statements with an example (5)
- Q5 a) Discuss the various storage allocation strategies in detail. (5)**
b) Discuss the various methods for translating Boolean expression. (5)
- Q6 a) How to generate a code for a basic block from its dag representation? Explain. (5)**
b) Discuss the advantage and disadvantage of LR parsing Scheme. (5)
- Q7 a) Write an algorithm to construct the natural loop of a back edge. (5)**
b) Discuss briefly about Peephole Optimization. (5)
- Q8 Write Short Notes (Any Two) (5 x 2)**
- a) Synthesized attributes.
 - b) Lex Compiler.
 - c) Handle pruning.
 - d) DAG