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B.Tech. Examination, 2016

(Sixth Semester)

(C.S.)

Paper – V

COMPILER DESIGN

Time Allowed : Three Hours

Maximum Marks : 100   *Any – 5*

Q. 1. (a) Discuss about of Compiler Design, and write the role of compiler in computer science.   10

(b) What do you understand by Parsing Technique. Explain any one.   10

Q. 2. (a) Define the compiler writing tools. Explain any one.   10

(b) Explain the context free grammer   10

Q. 3. (a) Explain lexical analyzer generator with example.   10

(b) Write the LALR Parsing Technique.   10

Q. 4. (a) Explain the code optimization technique.   10

(b) What do you understand by lexical phase errors, in error detections & recovery system ?   10

P.T.O.

(2)

Q. 5. (a) Explain postfix translations with example. 10

(b) Write the necessary phases and passes of compiler designs. 10

Q. 6. (a) Explain the symbol table, and also explain data structure for symbol table, with example. 10

(b) What do you understand by machine independent optimization. 10

Q. 7. (a) Explain syntax-directed translation schemes. 10

(b) Short note on any four: 10

(i) LR Parsing

(ii) DAG

(iii) Capability of CFG

(iv) DFA Based Pattern matcher

(v) Code generator

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B.Tech. Examination, 2015

(Sixth Semester)

(C.S.)

Paper - V

COMPILER DESIGN

Time Allowed : Three Hours

Maximum Marks : 100

Note : Attempt any FIVE questions. All questions carry equal marks.

Q. 1.   (a) Explain all the necessary phases and passes in compiler design. Write down the purpose of each pass.   10

(b) What do you mean by Lexical Analyzer generator and LEX - compiler.   10

Q. 2.   (a) Generate Parse Tree for the following grammars and expression is : id + id * id,   10

$E \rightarrow E+E \mid E*E \mid id$

(b) Explain about parser and parsing techniques.   10
What is Top down parsing.   10

Q. 3.   (a) Explain the following :
(i) Constructing SLR Parsing Tables
(ii) LALR Parsing Tables

(b) What is Postfix Translations ? Explain it with suitable example.   10

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(3)

Q. 4. (a) Explain the following
(i) Lexical Phase Error
(ii) Syntactic Phase Error 10

(b) What information is represented by symbol table ? Explain the data structure for symbol table. 10

Q. 5. (a) Discuss the role of compiler writing tools. Describe various compiler writing tools. 10

(b) Construct LL(1) Parsing Table for following grammar : 10

S → A
A → aB | aC | Ad | Ae
B → bBc | f
C → g

Q. 6. (a) Consider the following grammar : 10

E → T + E | T
T → V * T | V
V → id

Write down the production for non-terminal of the grammar to make recursive decent parser.

(b) Write the principle source of code optimization and problem occur in code generation. 10

Q. 7. (a) Explain Shift Reduce Parsing Technique with suitable example and show how stack work. 10

(b) Construct LR (0) items for the following grammar : 10

S → ABC
A → a | ∈
B → b | ∈
C → c | ∈

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