

SAC/Printed Pages: 03

552011
M.Sc. SECOND SEMESTER EXAMINATION
APRIL – MAY 2015
SUBJECT: COMPUTER SCIENCE
PAPER – I
COMPILER DESIGN

Time: 3hrs

Max. Marks: 40

Min. Marks: 16

Note: All sections are compulsory. Marks are indicated against each section.

SECTION – A
Objective Type Questions

Q.1 Choose the correct answer: (1 x 5 = 5)

- (i) Transition graphs are used to depict a DFA. (True/False)
- (ii) CFL is generated by some context free grammar (CFG). (True/False)
- (iii) An intermediate code form is pre-fix rotation. (True/False)
- (iv) LR parsers are a type of top-down parses. (True/False)
- (v) A symbol table is a data structure used by language translator such as Compilers. (True/False)

SECTION – B
Short Answer Type Questions

(2 x 5 = 10)

Q.2. Explain FA with null strings.

OR

Discuss sets and relations.

P.T.O.

// 2 //

Q.3. Describe context free grammars.

OR

What do you understand by deviation free.

Q.4. What is intermediate code generation? Explain.

OR

What do you mean by finite automata? Explain.

Q.5. What do you understand by derivation of parse.

OR

Write the capabilities of CFG.

Q.6. Differentiate parse tree and syntax tree.

OR

Describe data structure for symbol tables.

SECTION – C
Long Answer Type Questions

(5 x 5 = 25)

Q.7. Explain pumping lemma for regular languages.

OR

Discuss Non Deterministic FA.

Q.8. Explain Push Down Automata (PDA).

OR

Explain Chomsky normal form.

Q.9. Discuss implementation of lexical analyzer using lex.

OR

// 3 //

(a) What is regular expression.

(b) What is the minimized DFA for the following expression?

$(a * b) / ab$

Q.10. Write short notes on (Any two) –

(a) Top – down parsing.

(b) LR parser

(c) Constructing SLR parsing tables

(d) Shift – reduce parsing

Q.11. Describe the implementation of syntax – directed translators.

OR

Explain three address code, quadruples address code.
