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E—42—2019

FACULTY OF COMPUTER STUDIES

B.Sc. (Fourth Semester) EXAMINATION

MARCH/APRIL, 2019

(CBCS Pattern)

COMPUTER SCIENCE

(Compiler Design)

(Thursday, 25-4-2019) **Time : 2.00 p.m. to 5.00 p.m.**

Time—3 *Hours* *Maximum Marks*—75

N.B. :— (*i*) *All* questions are compulsory.

(*ii*) Figures to the right indicate full marks.

(*iii*) Assume suitable data, if necessary.

1. Attempt any *five* of the following : 15

   (*a*) Record structure in data structure.

   (*b*) Explain needs of translators.

   (*c*) Discuss context free grammar.

   (*d*) Discuss assignments.

   (*e*) Explain parse and syntax trees.

   (*f*) Explain bottom-up parsing.

   (*g*) Discuss the post-fix notations.

2. Attempt any *two* of the following : 10

   (*a*) Explain the intermediate code generation.

   (*b*) Explain the syntax analysis.

   (*c*) Discuss the compiler construction tools.

3. Attempt any *two* of the following : 10

   (*a*) Explain the various data elements.

   (*b*) Explain the structure of languages.

   (*c*) Discuss the operators.

4. Attempt any *two* of the following : 10

   (*a*) Explain the finite automata.

   (*b*) Discuss the language for specifying lexical analyzer.

   (*c*) Explain the role of lexical analyzer.

P.T.O.

5. Attempt any *two* of the following : 10

(*a*) Discuss the context free grammar.

(*b*) What is parser ? Explain the top-down parser.

(*c*) Explain the operators precedence parsing.

6. Attempt any *two* of the following : 10

(*a*) Explain the parse tree.

(*b*) Explain the implementation of syntax directed translators.

(*c*) Discuss the various types of three address statements.

7. Attempt any *two* of the following : 10

(*a*) Explain the various loops of optimization.

(*b*) Discuss the semantic errors.

(*c*) Explain the lexical-phase errors.