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**AI—398—2017**

**FACULTY OF COMPUTER STUDIES**

**M.Sc. (First Year) (Second Semester) EXAMINATION**

**MARCH/APRIL, 2017**

**(CBCS Pattern)**

**COMPUTER SCIENCE**

**(CS-204)**

**(Compiler Designing)**

**(Friday, 28-4-2017)**

**Time : 10.00 a.m. to 1.00 p.m.**

*Time—Three Hours*

*Maximum Marks—75*

*N.B. :— (i) Assume suitable data if necessary.*

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

1. Attempt any *three* of the following : 15
  - (a) Explain structure of compiler.
  - (b) Explain concept of data structure.
  - (c) Explain the role of lexical analyser.
  - (d) Explain the concept of context free grammar.
  - (e) What is regular expression ? Explain.
2. Attempt any *three* of the following : 15
  - (a) Explain syntactic structure of language.
  - (b) Explain LR parser in detail.
  - (c) Explain contents of symbol table.
  - (d) Explain finite automata.
3. Attempt any *three* of the following : 15
  - (a) Construct NFA for  $(a/b)^* abb$ .
  - (b) Explain SLR parser in detail.
  - (c) Explain the concept of syntax trees.
  - (d) What is intermediate code ? Explain.
4. Attempt any *three* of the following : 15
  - (a) How to minimize no. of steps in DFA
  - (b) What do you mean by loop optimization

P.T.O.

- (c) Explain the concept of parse trees.
- (d) Explain importance of high level language.
- 5. Write short notes on the following (any *three*) : 15
  - (a) Tokens
  - (b) Programming language
  - (c) Symbol table
  - (d) Psotfix notations
  - (e) Loop optimization.