CLASS: BE	**SEMESTER:** VII/ADD
BRANCH: IT	**SESSION:** MO/2018

SUBJECT: IT7043 COMPILER DESIGN

TIME: 1.5 HOURS	**FULL MARKS: 25**

INSTRUCTIONS:
1. The total marks of the questions are 30.
2. Candidates may attempt for all 30 marks.
3. In those cases where the marks obtained exceed 25 marks, the excess will be ignored.
4. Before attempting the question paper, be sure that you have got the correct question paper.
5. The missing data, if any, may be assumed suitably.

Q1 (a) Explain phases of Compiler.   [3]
    (b) Explain Front End and Back End phases and their role in compilers.   [2]

Q2 (a) Identify Lexical errors from following C-program statements(if any):   [2]
         i) a = bc ; +-
         ii) char b = "int" 05781:
         Count number of tokens from following C- program statements
         i) voidmain(intfloat, float while)
                   { retun 0 intfloat;}
         ii) printf("%d %d hello there compiler exam", x,y, char c) ;
    (b) Design Finite Automata and write regular expression to construct Lexical analyser for   [3]
         different types of operators in C language.

Q3 (a) Explain LL(1) parsing algorithm.   [3]
    (b) Construct LL(1) parsing table and verify the following grammar is ambiguous or not.   [2]
         S → +ABC
         A → + / *+
         B → + / ε
         C → * / ε

Q4 (a) Construct FA and verify following grammar is SLR(1) or not.   [3]
         S → A
         A → AB / ε
         B → aB / b
    (b) Explain drawback of SLR(1) parsing with an example.   [2]

Q5 (a) Construct operator precedence parsing table for following grammar   [3]
         S → A + S / A
         A → A * B / B
         B → B ^ C / C
         C → C @ D / D
         D → a
    (b) Explain conflict resolving technique of shift-reduce parsers with example.   [2]

Q6 (a) Explain cousins of compiler and how they are related to each other.   [2]
    (b) Why we need to compute FIRST and FOLLOW sets with appropriate examples.   [3]