Code No: CT1509   **GEC-R14**
II B. Tech II Semester Supplementary Examinations, June 2017
COMPILER DESIGN
(Computer Science and Engineering)

Time: 3 Hours   **Max. Marks: 60**

Note: All Questions from **PART-A** are to be answered at one place.
Answer any **FOUR** questions from **PART-B.** All Questions carry equal Marks.

PART-A
6 × 2 = 12M

1. Define compiler? List out its functions?

2. Define Right Most Derivation with example.

3. For the grammar S->0S1 | 01.Indicate the handle in each of the following right-sentential forms:

   i) 000111

   ii) 00S11

4. Explain the concept of syntax directed definition and its usage.

5. Define three address code and list its types.

6. what are the different forms of object code?

PART-B
4 × 12 = 48M

1. a) What is the role of Lexical analyzer in a compiler?.   (6M)

   b) Differentiate Compiler and Interpreter.   (6M)

2. a) Compute FIRST and FOLLOW for the grammar and construct predictive parsing table.   (8M)

   S->iCtSS' | a   S'->eS| $\in$ C->b

   b) Consider the predictive parsing table from above question and show the sequence of moves made by the parser for w=abba.   (4M)

3. a) Explain about the steps involved for Construction of CLR parser.   (4M)

   b) Check whether the input string **cdd** can be parsed by CLR or not by using below given table and the grammar.   (8M)

State	c	d	$	S	C
	Action			**Goto**	
0	s3	s4		1	2
1			acc		
2	s6	s7			5
3	s3	s4			8
4	r3	r3			
5			r1		
6	s6	s7			9
7			r3		
8	r2	r2			
9			r2		

Grammar :
> S->CC
> C->cC/d

4. a) Explain tree structured symbol tables. (6M)

   b) What is an S-attributed definition and L-attributed definition? Explain with an example. (6M)

5. a) Generate the three address code for an expression x: = a + b * c +d. (6M)

   b) Explain about common sub expression elimination with an example. (6M)

6. a) Explain instruction scheduling with an example. (6M)

   b) Explain about listing algorithm with an example. (6M)

*****