Reg. No.										

MANIPAL INSTITUTE OF TECHNOLOGY

MANIPAL

(A constituent unit of MAHE, Manipal)

II SEMESTER M.TECH. (COMPUTER SCIENCE & ENGG)

END SEMESTER EXAMINATIONS, APRIL 2018

SUBJECT: COMPILERS AND ADVANCED OPERATING SYSTEMS

[CSE 5201]

REVISED CREDIT SYSTEM
(17/04/2018)

Time: 3 Hours MAX. MARKS: 50

Instructions to Candidates:

- Answer **ALL** the questions.
- Missing data may be suitable assumed.

1A.	In the lexical analysis phase, explain the two-buffer scheme that handles large lookaheads safely.	3
1B.	With an example, explain recursive descent parsing.	3
1C.	For the given grammar, construct a predictive parsing table. S→A1B A→0A | ε B→0B | 1B | C C→2C | 3C | ε	4
2A.	Explain the two ways by which we can handle reserved words that look like identifiers.	2
2B.	For the given grammar, eliminate left recursion. S→X1Y X→X0 | 2 Y→Y0 | Y1 | 3	2
2C.	For the given grammar, construct the LR(0) sets of items and the SLR parsing table. (Note: In the last production, comma is a valid terminal) B→id P B→id(E] P→ε P→(E) E→B E→B,E	6
3A.	For the given grammar, obtain the semantic rules for evaluating an expression. E→TE' E'→+TE' E'→ε T→(E) T→digit E'→-TE' Also draw the annotated parse tree for (9-3)+5	4

3B.	For the given C code, write the three address statements. Also show the quadruple & triple representations.
	found = 0;
	for (i = 0; i < 10; i++) {
	val = a[i];
	if (val == 25) found = 1;
	}
		3

3C	Generate code for the following sequence. Assume that s, i, and n are in memory locations. Also assume a simple target machine model. s = 0 i = 0 L1: if i > n goto L2 s = s + i i = i + 1 goto L1 L2:	3
4A	Distinguish between mobile code and mobile agents.	4
4B	With an example, explain Java object serialization.	6
5A	Explain the distributed object model.	4
5B	Explain the protocol used for Clock Synchronization in Wireless Networks.	4
5C	Explain the Token Ring algorithm for Mutual Exclusion.	2