Code No: **R31051**   # R10 | Set No. 1 |

III B.Tech I Semester Supplementary Examinations, October/November-2019
COMPILER DESIGN
(Computer Science and Engineering)

Time: 3 hours   **Max. Marks: 75**

Answer any FIVE Questions
All Questions carry equal marks
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1	a)	Write in detail about analysis and synthesis phases of compiler.	[8M]
	b)	Discuss the role of loader linker, assembler and compiler in translating programming languages.	[7M]
2	a)	How to specify the tokens in lexical analyzers? Differentiate token, lexeme and pattern with suitable examples.	[8M]
	b)	Write the following i) Scanner Vs Parser ii) Lexical errors iii) Regular definitions for expressions.	[7M]
3	a)	Discuss the process of error recovery in predictive parsing.	[8M]
	b)	Construct Predictive parser for **G: S→ (L)|a L→ L,S|S** and check the acceptance of input string (a,(a,a))	[7M]
4		Construct SLR parser for the given grammar and check the acceptance of input string of your own **S→S+|+S|SS|S*|r|a|b**	[15M]
5	a)	Explain the algorithm to construct LR(1) items with closure and goto operations.	[8M]
	b)	What is dangling else ambiguity? Explain how to handle it with an example.	[7M]
6	a)	Give the structure of the symbol table. And also explain various uses of it in all over the compiler construction.	[8M]
	b)	Write and explain various mechanisms used to pass the parameters in function calls.	[7M]
7		Explain the following i) Algorithm to construct the basic blocks and flow graph. ii) Any 3 Machine independent optimization techniques. iii) Various forms of intermediate code.	[15M]
8	a)	Differentiate machine independent and dependent techniques. Explain the role of peephole in it.	[8M]
	b)	What is reference counting? How it is used for garbage collection? Explain.	[7M]

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