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

III B.Tech I Semester Supplementary Examinations, October/November - 2017

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		Describe the output for the various phases of compiler with respect to the following statements count = count *2 + count *2.	[15M]
2	a)	Why is buffering used in lexical analysis? What are the commonly used buffering methods?	[7M]
	b)	Construct the minimized DFA for the regular expression (0+1)*(0+1) 10	[8M]
3		What are the key problems with top down parser? Write recursive descent parser for the grammar: S→cAd A→ab|a	[15M]
4		Construct a SLR parser for the following grammar: Stmts → Stmt Stmts → Stmts ; Stmt Stmt → Var = E Var → id [E] Var → id E → id (7) E → (E) Show the moves of the parser on a valid and an invalid string.	[15M]
5	a)	Describe various steps in the construction of LALR parser. Explain reduce-reduce conflict with an example.	[8M]
	b)	How to handle the errors in LR parsing? Explain with an example.	[7M]
6		Write syntax directed translation to translate the following statements i) if ii) Ifelse iii) while and iv) for statements into three address code.	[15M]
7	a)	What are the different loop optimization methods? Explain them with examples.	[8M]
	b)	What is an activation record? Explain how it is relevant to the intermediate code generation phase with respect to procedure declarations.	[7M]
8	a)	What is the use of DAG in code optimization? Explain with an example.	[7M]
	b)	What is the optimization technique applied on procedure calls? Explain with an example.	[8M]

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