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

III B.Tech I Semester Supplementary Examinations, November - 2015

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)	Explain in brief about Bootstrapping process with suitable diagram.	[5]
	b)	Explain the different phases of the compiler, showing the output of each phase using the example for the statement z = (a*20) + b – c	[10]
2	a)	What is left recursion and left factoring? Eliminate left recursion for the following grammar E -> E + E / num	[7]
	b)	Consider following grammar S -> (L) | a , L -> L, S | S Find parse trees for the sentences i) (a, (a,a)) ii) (a, (a,a), (a,a))	[8]
3	a)	Explain about Top down parsing techniques.	[7]
	b)	Show that the following grammar is LL(1) S -> AaAb | BbBa , A -> ε, B -> ε	[8]
4	a)	Construct LR (1) parsing table. S →Aa , S →,bAc ,S →dc ,S →bda ,A →d (Write all necessary procedures)	[7]
	b)	Differentiate between LL and LR parsers	[7]
5	a)	Explain in brief about error recovery in LR parsing?	[8]
	b)	Construct LALR parsing table for the grammar S→CC , C→ cC/ d?	[7]
6	a)	What are self-organizing lists? How can this be used to organize a symbol table? Explain with an example. ?	[8]
	b)	Discuss storage allocation for non block structured languages. ?	[7]
7	a)	Explain in brief about Loop optimization techniques?	[7]
	b)	Explain in brief about Three address codes?	[8]
8	a)	Explain how Redundant sub-expression elimination can be done at global level in a given Problem.	[7]
	b)	What is flow graph? Explain how flow graph can be constructed for a given problem.	[8]

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