

Code No: **R31051**

**R10**

**Set No. 1**

**III B.Tech I Semester Supplementary Examinations, May - 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 Total = count + rate \* 10. [15M]
- 2 a) Describe the role of regular expression in lexical analyzer. [7M]  
b) What are the error recovery actions in a lexical analyzer? [8M]
- 3 Construct the predictive parser for the following grammar: [15M]  
 $S \rightarrow (L) la$   
 $L \rightarrow L, SIS$
- 4 Construct SLR parsing table for the grammar [15M]  
 $E \rightarrow E + T \mid T$   
 $T \rightarrow TF \mid F$   
 $F \rightarrow F^* \mid a \mid b$
- 5 Construct the CLR parsing table from [15M]  
 $S \rightarrow AA,$   
 $A \rightarrow Aa \mid b$
- 6 a) Briefly explain various parameter passing techniques. [7M]  
b) Discuss the merits and demerits of static allocation strategy. [8M]
- 7 Briefly explain the following with examples. Copy propagation, dead code elimination, code motion. [15M]
- 8 a) Distinguish machine dependent and machine independent optimization. [8M]  
b) What is peephole? What peephole optimizations can be performed on code? [7M]

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