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Total No. of Pages : 01

Total No. of Questions : 08

M.Tech. (CSE Engg.)/(E-Security) (Sem.-2)

**COMPILER DESIGN**

Subject Code : CS-506

M.Code : 35407

Time : 3 Hrs.

Max. Marks : 100

**INSTRUCTIONS TO CANDIDATES :**

1. Attempt any FIVE questions out of EIGHT question.
2. Each question carries TWENTY marks.

- Q1. Define translation. Explain the phases of compilation with suitable examples.
- Q2. What is the role of the lexical analyser? Explain the process of tokenization. List the issues in lexical analysis.
- Q3. Given that CFG  $G = \{S, \{S, U, V, W\}, \{a, b, c, d\}, P\}$  with P as given below :
- $$S \rightarrow UVW$$
- $$U \rightarrow (S) \mid aSb \mid d$$
- $$V \rightarrow aV \mid \epsilon$$
- $$W \rightarrow cW \mid \epsilon$$
- a) Construct a table-based LL(1) predictive parser for G.
  - b) Give the parsing actions for the input string "(dc)ac".
- Q4. What are syntax-directed definitions? Give a syntax-directed definition for constructing a syntax tree for an expression containing operators + and -.
- Q5. Write a short note on type systems. Write a syntax directed translation for type checking of expressions.
- Q6. Explain the storage allocation strategies used in run time memory.
- Q7. Write and explain a translation scheme for generating intermediate code for declarative statements.
- Q8. What are various approaches to code generation? Explain the issues in the design of a code generator.

**NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.**