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Question Paper Code: 36201

B.E. / B.Tech. DEGREE EXAMINATION, DEC 2020

Sixth Semester

Computer Science and Engineering

01UCS601 - PRINCIPLES OF COMPILER DESIGN

(Regulation 2013)

Duration: 1.15 hrs

Maximum: 30 Marks

PART A - (6 x 1 = 6 Marks)

(Answer any six of the following questions)

- Which one is correct for language processing system?
 - pre-processor → compiler → Assembler → Loader & Linker
 - compiler → pre-processor → Assembler → Loader & Linker
 - pre-processor → compiler → Loader & Linker → Assembler
 - pre-processor → Assembler → compiler → Loader & Linker
- In a compiler the module that checks every character of the source text is called
 - The code generator
 - The code optimizer
 - The Lexical analyser
 - The syntax analyser
- Which data structure in a compiler is used for managing information about variables and their attributes?
 - Abstract Syntax tree
 - Symbol Table
 - Semantic stack
 - Parse table
- The process of assigning load addresses to the various parts of the program and reflect the assigned addresses is called
 - Assembly
 - Parsing
 - Relocation
 - Symbol resolution

13. Construct the parsing table for the grammar

$$S \rightarrow iEtSS' \mid a$$

$$S' \rightarrow eS \mid \epsilon$$

$$E \rightarrow b$$

and design a syntax analyzer for a sample language. (8)

14. For the following given grammar construct the syntax directed definition and generate the code fragment using S-attributed definition

$$S \rightarrow EN$$

$$E \rightarrow E + T \mid E - T \mid T$$

$$T \rightarrow T * F \mid T / F \mid F$$

$$F \rightarrow (E) \mid \text{digit}$$

$$N \rightarrow ;$$

(8)

15. Elaborate the issues involved in design of a code generator. (8)