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Total No. of Pages : 02

Total No. of Questions : 09

B.Tech (CSE) (Sem.–6)

COMPILER DESIGN

Subject Code : BTCS601-18

M.Code : 79249

Date of Examination : 18-01-2025

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is **COMPULSORY** consisting of **TEN** questions carrying **TWO** marks each.
2. SECTION-B contains **FIVE** questions carrying **FIVE** marks each and students have to attempt any **FOUR** questions.
3. SECTION-C contains **THREE** questions carrying **TEN** marks each and students have to attempt any **TWO** questions.

SECTION-A

1. Write briefly :

- a) What is meant by ambiguous grammar?
- b) What are syntax errors, give two examples?
- c) What is an Interpreter?
- d) Give some compiler construction tools.
- e) Differentiate between compiler and interpreter.
- f) Remove left recursion $S \rightarrow Aa/b, A \rightarrow Ac/Sd/e$.
- g) What is Basic Block? Write its use.
- h) Define the two parts of compilation and its function.
- i) Define Ambiguous Grammar.
- j) What is DAG?

SECTION-B

2. Explain Language Processing System with neat diagram.
3. What are issues in Lexical Analysis?
4. Explain various Errors encountered in different phases of compiler.
5. Construct Stack Implementation of Shift-Reduce Parsing for the grammar below:
 $E \rightarrow E+E \quad E \rightarrow E * E \quad E \rightarrow (E) \quad E \rightarrow id$
For the given input string $id1 + id2 * id3$.
6. Construct LL(1) grammar for the sentence $S \rightarrow iEtS \mid iEtSeS \mid a \quad E \rightarrow b$

SECTION-C

7. Explain the following w.r.t code generation phase:
 - a) Input to code generator
 - b) Target Program
 - c) Memory Management
 - d) Instruction Selection
 - e) Register Allocation
 - f) Evaluation Order
8. Discuss different Storage Allocation Strategies.
9. Explain Principal Sources of Optimization with example.

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.