

### Unit-III

1. Syntax-Directed Translation (SDT) is a method of:
  - A) Code optimization
  - B) Associating semantic rules with grammar productions
  - C) Lexical analysis
  - D) Memory allocation

**Answer: B**

2. A Syntax-Directed Definition (SDD) consists of:
  - A) Tokens and symbols only
  - B) Grammar productions and semantic rules
  - C) Parse trees only
  - D) Intermediate code and object code

**Answer: B**

3. Attributes associated with grammar symbols are used to:
  - A) Generate machine instructions directly
  - B) Store semantic information
  - C) Remove syntax errors
  - D) Perform lexical analysis

**Answer: B**

4. An attribute whose value is computed from the attributes of children nodes is called:
  - A) Inherited attribute
  - B) Synthesized attribute
  - C) Dynamic attribute
  - D) Static attribute

**Answer: B**

5. An attribute whose value is obtained from parent or sibling nodes is called:

- A) Synthesized attribute
- B) Terminal attribute
- C) Inherited attribute
- D) Constant attribute

**Answer: C**

6. An SDD that uses only synthesized attributes is called:
- A) L-attributed SDD
  - B) S-attributed SDD
  - C) LR-attributed SDD
  - D) Ambiguous SDD

**Answer: B**

7. L-attributed SDDs allow:
- A) Only synthesized attributes
  - B) Both synthesized and restricted inherited attributes
  - C) Only inherited attributes
  - D) No attributes

**Answer: B**

8. The dependency graph in an SDD represents:
- A) Control flow of a program
  - B) Relationships among attribute computations
  - C) Parsing actions
  - D) Memory allocation

**Answer: B**

9. Evaluation order for attributes is determined by:
- A) Lexical rules
  - B) Dependency relationships

- C) Symbol table entries
- D) Code optimization techniques

**Answer: B**

10. A topological sort of a dependency graph is used to:

- A) Detect lexical errors
- B) Determine attribute evaluation order
- C) Minimize parsing tables
- D) Optimize code

**Answer: B**

11. Syntax-directed translation schemes differ from SDDs because they:

- A) Use semantic actions embedded within productions
- B) Ignore attributes
- C) Eliminate parsing
- D) Generate machine code directly

**Answer: A**

12. Semantic actions in a translation scheme are enclosed within:

- A) Parentheses
- B) Braces
- C) Square brackets
- D) Angle brackets

**Answer: B**

13. L-attributed SDDs can be efficiently implemented during:

- A) Bottom-up parsing only
- B) Top-down parsing
- C) Code optimization
- D) Linking

**Answer: B**

14. Syntax-directed translation is commonly used for:

- A) Symbol table construction
- B) Type checking
- C) Intermediate code generation
- D) All of the above

**Answer: D**

15. A syntax tree is a compressed form of:

- A) Symbol table
- B) Parse tree
- C) Dependency graph
- D) DFA

**Answer: B**

16. In a syntax tree, internal nodes generally represent:

- A) Operands
- B) Operators
- C) Variables only
- D) Constants only

**Answer: B**

17. Leaves of a syntax tree typically represent:

- A) Statements
- B) Operators
- C) Operands
- D) Non-terminals

**Answer: C**

18. Intermediate code is generated to:

- A) Increase hardware efficiency
- B) Make the compiler machine-independent
- C) Replace source code permanently
- D) Eliminate lexical analysis

**Answer: B**

19. Which of the following is a commonly used intermediate representation?

- A) Machine code
- B) Assembly code
- C) Three-address code
- D) Binary code

**Answer: C**

20. A three-address instruction contains:

- A) At most three addresses
- B) Exactly three operators
- C) Only one operand
- D) No temporary variables

**Answer: A**

21. Which of the following is used extensively in three-address code?

- A) Temporary variables
- B) Buffer pointers
- C) Parsing tables
- D) Registers only

**Answer: A**

22. Quadruples, triples, and indirect triples are representations of:

- A) Symbol tables
- B) Three-address code

- C) Parse trees
- D) Finite automata

**Answer: B**

23. A quadruple representation contains:

- A) Operator, two arguments, and result
- B) Operator and one operand only
- C) Three operators and one result
- D) Only arguments

**Answer: A**

24. Type checking ensures that:

- A) Variables are declared before use
- B) Operations are applied to compatible data types
- C) Programs are optimized
- D) Parsing is completed successfully

**Answer: B**

25. Information about variable types is generally stored in the:

- A) Parse tree
- B) Symbol table
- C) Input buffer
- D) Parsing stack

**Answer: B**

26. Type conversion performed automatically by the compiler is called:

- A) Explicit conversion
- B) Type coercion
- C) Parsing
- D) Casting



**Answer: B**

27. Intermediate code for conditional statements primarily uses:

- A) Type declarations
- B) Conditional and unconditional jumps
- C) Buffer pointers
- D) Regular expressions

**Answer: B**

28. Control flow statements include:

- A) if-else and loops
- B) Variable declarations
- C) Arithmetic expressions only
- D) Comments

**Answer: A**

29. A switch statement in intermediate code is commonly implemented using:

- A) Lexical analyzers
- B) Jump tables or conditional branches
- C) Symbol tables only
- D) Dependency graphs

**Answer: B**

30. Intermediate code for procedures typically includes:

- A) Parameter passing and return statements
- B) Regular expressions
- C) DFA minimization
- D) Buffer management

**Answer: A**