**Compiler Design - MCQs**

1. Which phase of the compiler translates source code into intermediate code?

a) Lexical Analysis

b) Syntax Analysis

c) Semantic Analysis

d) Intermediate Code Generation

2. In which phase of the compiler are tokens generated?

a) Syntax Analysis

b) Lexical Analysis

c) Semantic Analysis

d) Code Optimization

3. A compiler that reports all errors at the end of compilation is called:

a) Single-pass compiler

b) Multi-pass compiler

c) Cross compiler

d) Interpreter

4. Which data structure is mainly used for implementing a symbol table?

a) Stack

b) Queue

c) Hash Table

d) Array

5. In syntax analysis, a grammar that has no ambiguity is called:

a) Unambiguous grammar

b) Context-free grammar

c) Context-sensitive grammar

d) Regular grammar

6. Which of the following is NOT a part of the compiler?

a) Syntax Analyzer

b) Semantic Analyzer

c) Interpreter

d) Code Generator

7. Which parser is used for grammar that follows left recursion?

a) LL parser

b) LR parser

c) Top-down parser

d) Bottom-up parser

8. What is the output of Lexical Analysis?

a) Parse Tree

b) Syntax Tree

c) Sequence of Tokens

d) Intermediate Code

9. Which phase of the compiler is responsible for type checking?

a) Syntax Analysis

b) Semantic Analysis

c) Code Generation

d) Optimization

10. Which technique is used for code optimization?

a) Constant folding

b) Parsing

c) Syntax directed translation

d) Tokenization

11. In compiler design, a finite automaton is used for:

a) Syntax Analysis

b) Lexical Analysis

c) Semantic Analysis

d) Code Optimization

12. Which of these is a bottom-up parsing method?

a) LL(1)

b) LR(1)

c) Recursive Descent Parsing

d) Predictive Parsing

13. Peephole optimization is a part of:

a) Lexical Analysis

b) Syntax Analysis

c) Semantic Analysis

d) Code Optimization

14. Intermediate code is generated to:

a) Increase compilation time

b) Make compiler design simpler

c) Optimize machine code

d) Reduce errors

15. A Grammar is called ambiguous if:

a) It generates more than one parse tree for some string

b) It contains left recursion

c) It is context-sensitive

d) None of the above

16. Shift-reduce conflict occurs in:

a) LL parsing

b) LR parsing

c) Top-down parsing

d) Predictive parsing

17. In syntax-directed translation, attributes are associated with:

a) Productions

b) Terminals

c) Non-terminals

d) Both b and c

18. The process of assigning addresses to variables is called:

a) Allocation

b) Storage management

c) Address resolution

d) Binding

19. YACC is a tool used for:

a) Lexical Analysis

b) Syntax Analysis

c) Semantic Analysis

d) Code Generation

20. Which of the following is NOT an intermediate code form?

a) Three address code

b) Quadruples

c) Postfix notation

d) Syntax tree