Mentoring
Bangladesh

Course Name : Compiler Design

Mid-Term Examination   **Sample Question**

Total Marks: **Time: 24 Hours**

Instructions:

-All the **Answers** should be written in the **Answer Scripts**

-**Make PDF** of your **Answer Scripts** and submit it to "**Mentoring Bangladesh**" **FB Group** Click Here

-**Download Question & Solve** From https://mentoringbangladesh.com/

- **CamScanner** (PDF Creator) | Install | | Tutorial |

MCQ

1. Compiler has mainly _____ phases

   a) Two
   b) Three
   c) Five
   d) Six

2. Compiler go from _____ languages

   I.   High level to low level
   II. Low level to high level
   III. I & II
   IV. None

3. Which statements are true about assembler?

   I.   Converts source code to machine code
  II.   Generates assembly language
 III.   Kind of compiler
 IV.   I & III

4. Which statement is true about interpreter?

   a) Takes whole programe as input
   b) No intermediate object code is generated
   c) Memoery requirement is more than compiler
   d) Translates programe to assembly language

5. Which is the fourth phase of compiler?

   a) Scanning
   b) Symentic analyzer
   c) Code optimizer
   d) Intermediate code generator

6. What is lexemes?

   a) Lexical errors
   b) Gramatical mistakes in code
   c) Meaningful sequence of characters
   d) Rules mismatch in parse tree

7. Symbol table is needed in

   a) Symentic analysis
   b) Lexical analysis
   c) Code optimization
   d) a & b

8. Which are true about syntax analizer?

   a) Third phase of comiler
   b) Generates grammatical structure of the token stream
   c) Each interior node represents argument
   d) b & c

9. Which types of errors are falls under semantic errors?

   a) Convertion mismatch
   b) Grammatical error
   c) Multiple declaration of variable
   d) Bracket mismatch

10. Intermediate code generation

   a) Generate an explicit low level representation
   b) Easy to translate into target problem
   c) Can have variety of forms
   d) All of them

11. Which statement is false about three address code?

   a) Each three address instruction has at best two operator on the right side.
   b) The compiler must generate a static variable to hold the value computed by each instruction.
   c) Some three address instructions have more than three operands
   d) All of them

12. Which phase of compiler attempts to improve the intermediate code?

   a) Symentic analyzer
   b) Code generator
   c) Code optimizer
   d) None

13. Code optimizer

    a) Find more efficient ways to execute code
    b) Replace code with more optimal statements
    c) Significantly improve the running time of the target program
    d) All of them

14. Which of them called front end of a compiler?

    a) Code optimizer
    b) Code generator
    c) Intermediate code generator
    d) I & II

15. Error handler

    a) Report the error in a helpful way
    b) correct the error if possible
    c) All of the above
    d) None

16. Context free grammer contains-

    a) 4 tuples
    b) 5 tuples
    c) 7 tuples
    d) None

Theory

1. **Draw the simplified diagram for the language processing system**
2. **Explain all of the phases of compiler for the statement x = a + (b+c)/2 − 30**
3. **Test the validity of the following strings for this context free grammer**

   X - X*Z | X-Y | ε

   Y - a | b | c

   Z - a | b | c

       i.   **a*b*c**

       ii.   **a*c-b**

4. **S – SS | ST | a | ε**

   T – b | c

       i.   **Write down the formal definition for this grammer**

       ii.   **Test the ambiguity for this context free grammer**

The End