



## Unit 4 and 5 mcqs - THIS IS A IMPORTANT DOCUMENT.

Compiler Design (SRM Institute of Science and Technology)



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1. Code generation can be considered as the?

- A. first phase of compilation
- B. second phase of compilation
- C. third phase of compilation
- D. final phase of compilation**

2. \_\_\_\_\_ is a tool that depicts the structure of basic blocks, helps to see the flow of values flowing among the basic blocks, and offers optimization too.

- A. DAG**
- B. CAG
- C. SAG
- D. PAG

3. In Directed Acyclic Graph, Leaf nodes represent?

- A. identifiers
- B. names
- C. constants
- D. All of the above**

4. In Algebraic expression simplification,  $a = a + 1$  can simply be replaced by?

- A. a
- B. INC a**
- C. DEC a
- D. MUL a

5.  $x * 2$  can be replaced by  $x \ll 1$  is an example of?

- A. Algebraic expression simplification
- B. Accessing machine instructions
- C. Strength reduction**
- D. Code Generator

6. The following code is an example of?

```
void add_ten(int x)  
  
{  
  
    return x + 10;  
  
    printf("value of x is %d", x);  
  
}
```

- A. Redundant instruction elimination
- B. Unreachable code**

- C. Flow of control optimization
- D. None of the above

7. How many descriptors are used for track both the registers (for availability) and addresses (location of values) while generating the code?

- A. 2**
- B. 3
- C. 4
- D. 5

8. \_\_\_\_\_ are used to keep track of memory locations where the values of identifiers are stored.

- A. Register descriptor
- B. Address descriptor**
- C. Both A and B
- D. None of the above

9. Code generator uses \_\_\_\_\_ function to determine the status of available registers and the location of name values.

- A. setReg
- B. cinReg
- C. pfReg
- D. getReg**

10. Which of the following is not a form of Intermediate representation?

- A. Abstract Syntax Tree
- B. 3-address code
- C. Directed cyclic Graph**
- D. Reverse Polish Notation

11. Optimization can be categorized broadly into \_\_\_\_ types.

- A. 2
- B. 3
- C. 4
- D. 5

12. A fragment of code that resides in the loop and computes the same value at each iteration is called a?

- A. Induction analysis
- B. Strength reduction
- C. loop-invariant code**
- D. None of the above

13. A variable is called an \_\_\_\_\_ variable if its value is altered within the loop by a loop-invariant value.

- A. Invariant
- B. induction**
- C. strength
- D. loop

14. Dead code plays no role in any program operation and therefore it can simply be eliminated.

- A. TRUE**
- B. FALSE
- C. Can be true or false
- D. Can not say

15. Substitution of values for names whose values are constant, is done in

- A. local optimization
- B. loop optimization
- C. constant folding**
- D. None of the above

16. Peep-hole optimization is a form of

- A. loop optimization
- B. local optimization
- C. data flow analysis
- D. constant folding**

17. In analyzing the compilation of PL/I program, the term Machine independent optimization is associated with

- A. creation of more optical matrix**
- B. recognition of basic elements and creation of uniform symbols
- C. recognition of basic syntactic construction through reductionsc
- D. use of macro-processor to produce more optimal assembly code

18. Before generating intermediate code, the compiler can modify the intermediate code by address calculations and improving loops.

- A. TRUE
- B. FALSE**
- C. Can be true or false
- D. Can not say

19. The compiler can make use of memory hierarchy and CPU registers.

- A. TRUE**
- B. FALSE
- C. Can be true or false
- D. Can not say

20. A compiler for a high-level language that runs on one machine and produces code for a different machine is called

- A. optimizing compiler
- B. one pass compiler
- C. cross compiler**
- D. multipass compiler