

## COMPILER DESIGN

1. The advantage of panic mode of error recovery is that

- (a) it is simple to implement
- (b) it is very effective
- (c) it never gets into infinite loop
- (d) none of the above

2. A grammar can have

- (a) a non-terminal A that can't derive any string of terminals
- (b) a non-terminal A that can be present in any sentential form
- (c) all of the above
- (d) none of the above

3. Consider the grammar

$S \rightarrow ABSc \mid ABc$

$BA \rightarrow AB$

$Bb \rightarrow bb$

$Bc \rightarrow bc$

$Ab \rightarrow ab$

$Aa \rightarrow aa$

Which of the following sentences can be derived by this grammar?

- (a) aabbcc
- (b) aab
- (c) abca
- (d) abbc

4. The language generated by the above grammar is the set of all strings, made up of a, b, c such that

- (a) the number of a's, b's and c's will be equal
- (b) a's always precedes b's

(c) b's always precedes c's

(d) the number of a's, b's and c's are the same and, the a's precede the b's, which precede the c's

5. Choose the correct answer.

FORTRAN is a

(a) regular language

(b) context-free language

(c) context-sensitive language

(d) Turing language

6. Error repair may

(a) increase the number of errors

(b) generate spurious error messages

(c) mask subsequent errors

(d) all of the above

7. Any transcription error can be repaired by

(a) insertion alone

(b) deletion alone

(c) insertion and deletion alone

(d) replacement alone

8. The technique of replacing run time computation by compile time computation is called

(a) constant folding

(b) code hoisting

(c) peep hole optimization

(d) invariant computation

9. The graph that shows the basic blocks and their successor relationship is called

(a) control graph

- (b) flow graph
- (c) DAG
- (d) hamiltonian graph

10. Which of the following optimization techniques are typically applied on loops?

- (a) Removal of invariant computation
- (b) Elimination of induction variables
- (c) Peephole optimization
- (d) Constant folding

11. A bottom-up parser generates

- (a) Left-most derivation
- (b) right-most derivation
- (c) right-most derivation in reverse
- (d) left-most derivation in reverse

12. In an incompletely specified automata

- (a) no edge should be labelled  $\epsilon$
- (b) from any given state, there can't be any token leading to two different states
- (c) some states have no transition on some tokens
- (d) START state may not be there

13. Choose the correct statement

- (a) Language corresponding to a given grammar, is the set of all strings that can be generated by the given grammar
- (b) A given language is ambiguous if no unambiguous grammar exists for it
- (c) Two different grammars may generate the same language
- (d) All of the above

14. Synthesized attribute can easily be simulated by an

- (a) LL grammar
- (b) ambiguous grammar
- (c) LR grammar
- (d) none of the above

15. The graph depicting the inter-dependencies of the attributes of different nodes in a parse tree is called a

- (a) flow graph
- (b) dependency graph
- (c) karnaugh's graph
- (d) Steffi graph

16. Reduction in strength means

- (a) replacing run time computation by compile time computation
- (b) removing loop invariant computation
- (c) removing common sub-expressions
- (d) replacing a costly operation by a relatively cheaper one

17. Which of the following symbol table implementations is best suited if access time is to minimum?

- (a) Linear list
- (b) Search table
- (c) Hash table
- (d) Self-organization list