Multiple Choice Question

Compiler Design

1. A translator that takes as input a high-level language program and translates into machine language
in one step is known as ——————.
(a) Compiler (b) Interpreter
(c) Preprocessor (d) Assembler

2. —————— create a single program from several files of relocated machine code.
(a) Loaders (b) Assemblers
(c) Link editors (d) Preprocessors

3. A group of logically related characters in the source program is known as ——————.
(a) Token (b) Lexeme
(c) Parse tree (d) Buffer

4. The —————— uses the parse tree and symbol table checking the semantic consistency of the
source program.
(a) Lexical analyzer (b) Intermediate code generator
(c) Syntax translator (d) Semantic analyzer

5. The —————— phase converts an intermediate code into an optimized code that takes lesser space
and lesser time to execute.
(a) Code optimization (b) Syntax directed translation
(c) Code generation (d) Intermediate code generation

6. —————— is invoked whenever any fault occurs in the compilation process of source program.
(a) Syntax analyzer (b) Code generator
(c) Error handler (d) Lexical analyzer

7. In compiler, the activities of one or more phases are combined into a single module known as a
——————.
(a) Phase (b) Pass
(c) Token (d) Macro

8. For the construction of a compiler, the compiler writer uses different types of software tools that are
known as ——————.
(a) Compiler writer tools (c) Programming tools
(c) Compiler construction tools (d) None of these

9. A compiler that runs on one machine and produces the target code for another machine is known

as ——————.

(a) Cross compiler (b) Linker
(c) Preprocessor (d) Assembler

10. Consider the following language: A binary string beginning with 0 or more occurrences of 0 or 1 followed by 0 and two symbols, either 0 or 1. Represent the regular expression of this language.
a) 0(0|1)*(0|1) b) (0|1)*0(0|1)(0|1) c) 0*1*0(0|1)(1|0) d) 0(0|1)*0(0|1)(0|1)

11. A —————— acts as an interface between the source program and the rest of the phases of compiler.

(a) Semantic analyzer (b) Parser
(c) Lexical analyzer (d) Syntax analyzer

12. Which of these tasks are performed by the lexical analyzer?

(a) Stripping out comments and whitespace
(b) Correlating error messages with the source program
(c) Performing the expansion of macros
(d) All of these

13. A —————— is any finite set of strings over some specific alphabet.

(a) Sentence (b) Word
(c) Language (d) Character class

14. If zero or more symbols are removed from the end of any string s, a new string is obtained known
as a —————— of string s.

(a) Prefix (b) Suffix
(c) Substring (d) Subsequence

15. If we have more than one possible transition on the same input symbol from some state, then the
recognizer is said to be ——————.

(a) Non-deterministic finite automata (b) Deterministic finite automata
(c) Finite automata (d) None of these

16. A tool for automatically generating a lexical analyzer for a language is defined as ——————.

(a) Lex (b) YACC
(c) Handler (d) All of these

17. For A = 10 to 50 do, in the given code, A is defined as a/an ——————.

(a) Constant (b) Identifier
(c) Keyword (d) Operator

18. The language for C identifiers can be described as: letter_(letter_|digit)*, here * indicates ——————.

(a) Union (b) Zero or more instances
(c) Group of subexpressions (d) Intersection

19. A ———— is a compact notation that is used to represent the patterns corresponding to a token.

(a) Transition diagram (b) Regular expression
(c) Alphabet (d) Input buffer

20. The function Ɛ-closure(S)

a) finds the set of all states reachable from the state S on an input symbol

b) finds the next states reachable from the state S on an input symbol

c) finds the set of all states reachable from the state S on Ɛ input

d) finds the next states reachable from the state S on Ɛ input

21. Which of the following grammar is also known as Backus-Naur form?

(a) Regular (b) Context-free
(c) Context-sensitive (d) None of these

22. In G = {V, T, P, S} representation of context-free grammar, 'V' stands for ————.

(a) A finite set of terminals (b) A finite set of non-terminals
(c) A finite set of productions (d) Is the start symbol

23. Which of these statements are correct for the productions in context-free grammar?

(a) Productions represent the way in which the terminals and non-terminals can be joined to form a string.
(b) The left hand side of the production contains a single non-terminal.
(c) The right hand side of the production contains a string of terminals and/or non-terminals.
(d) All of these

24. ———— is defined as the replacement of non-terminal symbols in a particular string of terminals and non-terminals.

(a) Production (b) Derivation
(c) Sentential form (d) Left factoring

25. In a derivation ———— are the intermediate strings that consists of terminals and non-terminals.

(a) Sententials (b) Context-free language
(c) Context-sensitive language (d) None of these

26. A grammar generating more than one derivation for some sentences is known as ————.

(a) Regular (b) Context-free
(c) Context-sensitive (d) Ambiguous

27. A grammar contains ————.

(a) A non-terminal V that can be present in any sentential form
(b) A non-terminal V that cannot derive any string of terminals
(c) e as the only symbol in the left hand side of production
(d) None of these

28. Which of these are also known as canonical derivations?

(a) Leftmost derivations (b) Rightmost derivations

(c) Sentential form (d) None of these

29. Which of these statements is correct?

(a) Sentence of a grammar is a sentential form without any terminals.

(b) Sentence of a grammar should be derivable from the start state.

(c) Sentence of a grammar is a sentential form with no non-terminals.

(d) All of these

30. Consider a grammar: A → α S1 | α S2, the left factored productions for this grammar are:

(a) A' →α A
A →S1 | S2

(b) A →α A'
A' → α S1 | α S2

(c) A →α A'
A' →S1 | S2

(d) None of these