	CS-203 Compiler Construction(New-2017-18) & (252603)	**ANS**
1)	A compiler is preferable to an interpreter because (A) Debugging can be faster and easier (B) If one changes a statement, only that statement needs re-compilation (C) It is much helpful in the initial stages of program development (D) It can generate stand alone programs that often take less time for execution	D
2)	Which of the following symbol table implementation has the minimum access time? (A) Self-organizing list (B) Linear (C) Search tree (D) Hash table	D
3)	The action of parsing the source program into proper syntactic classes is called (A) General syntax analysis (B) Interpretation analysis (C) Syntax analysis (D) Lexical analysis	D
4)	Synthesized attribute can be easily simulated by a (A) LR grammar (B) LL grammar (C) Ambiguous grammar (D) None of these	A
5)	Which of the following is a phase of a compilation process? (A) Lexical analysis (B) Code generation (C) Both (A) and (B) (D) None of these	C

6)	Which of the following are Lexemes? (A) Keywords (B) Identifiers (C) Constants (D) all of the above	D
7)	“?” means (A) Zero or more instance (B) One or more instance (C) Zero or one instance (D) None of above	C
8)	Quadruple is a record structure with four fields. (A) Op, arg1, arg2 and result (B) op1, op2, agr2 and result (C) agr1, arg2 , result and op (D) All of d above	A
9)	Boolean expressions have following purposes (A) computing logical values (B) used as conditional expressions (C) both a &b (D) none of the above	C
10)	Principal methods of representing the value of boolean expression (A) encoding true & false numerically (B) to evaluate boolean expression analogously to an arithmetic expression (C) implementing boolean expression by flow of control (D) all of the above	D

11)	Translating Boolean expression three-address code without generating code operators & without having code necessarily to evaluate the entire expression is called (A) short circuit (B) jumping code (C) either a or b (D) both a & b	D
12)	The languages that need heap allocation in the runtime environment are (A) Those that use global variables (B) Those that use dynamic scoping (C) Those that support recursion (D) Those that allow dynamic data structure	D
13)	When is the type checking usually done? (A) During syntax-directed translation (B) During lexical analysis (C) During code optimization (D) During syntax analysis	A
14)	Which of the following techniques is used to replace run-time computations by compile time computations? (A) Constant folding (B) Code hoisting (C) Peep hole optimization (D) Invariant computation	A
15)	The lexical analyzer takes _____ as input and produces a list of ___ of output. (A) Machine code, mnemonic (B) Tokens, source code (C) Source code, tokens (D) Both a and b	C

16)	Linear analysis is called ____ in a compiler. (A) Lexical analysis (B) Scanning (C) Testing (D) Both a and b	D
17)	The process of searching for matched tokens is typically described using ___ (A) Finite automata (B) Regular expressions (C) Context free grammar (D) Both a and b	D
18)	Which of the following symbol table implementation is based on the property of locality of reference? (A) Linear list (B) Self-organizing list (C) Search tree (D) Hash table	B
19)	Minimum hamming distance method is used for connection of (A) Algorithm errors (B) Transcription errors (C) Semantic errors (D) Syntactic errors	D
20)	Which one of the following statements is FALSE? (A) Context-free grammar can be used to specify both lexical and syntax rules. (B) Type checking is done before parsing. (C) High-level language programs can be translated to different Intermediate Representations. (D) Arguments to a function can be passed using the program stack.	B

21)	What is Syntax Analyzer also known as (A) Hierarchical Analysis (B) Hierarchical Parsing (C) Hierarchical Analysis & Parsing (D) None of the mentioned	C
22)	In a compiler _______________ checks every character the source text. (A) The lexical analyzer (B) The syntax analyzer (C) The code generator (D) The code optimizer	A
23)	An optimizing compiler (A) Is optimized to take less time for execution (B) Optimize the code (C) Is optimized to occupy less space (D) None of the mentioned	B
24)	Which of the following is used for grouping of characters into tokens (A) Parser (B) Code generator (C) Lexical analyzer (D) Code generator	C
25)	Peep-hole optimization is a form of (A) loop optimization (B) local optimization (C) constant folding (D) data flow analysis	C

26)	What are the various types of three address statements? (A) Assignment Statement (B) Copy Statement (C) Assignment Instruction (D) All of the above	D
27)	A "Three Address Code" consists of (A) Two operand and one result (B) Two operands and operator (C) One operand and two operators (D) None of the above.	B
28)	Three address code generated temporary name are made up for the ___________ of the syntax tree. (A) Interior node (B) Exterior node (C) Parent node (D) child node	A
29)	Which of the following is not a technique to avoid a collision? (A) Make the hash function appear random (B) Use the chaining method (C) Use uniform hashing (D) Increasing hash table size	D
30)	In simple chaining, what data structure is appropriate? (A) Singly Linked List (B) Doubly Linked List (C) Circular linked list (D) Binary trees	B

31)	CFG (Context Free Grammar) can be recognized by a (A) Push down automata (B) Finite state automata (C) 2 way linear bounded automata (D) Both a and c	D
32)	Handle pruning is the technique used to obtain (A) Canonical reduction sequence (B) Canonical derivation sequence (C) Both (a) and (b) (D) None of these	A
33)	Semantic errors can be detected at (A) Compile time only (B) Run-time only (C) Both (a) and (b) (D) None of these	C
34)	Which of the following actions an operator-precedence parser may take to recover from an error? (A) Insert symbols onto the stack (B) Delete symbols from the stack (C) Insert or delete symbols from the input (D) All of these	D
35)	Left factoring is the process of factoring out the common (A) Prefixes of alternates (B) Suffixes of alternates (C) Both(a) and (b) (D) None of these	A

36)	Only OS independent compiler is (A) Java compiler (B) Visual basic compiler (C) Pascal compiler (D) Turbo C compiler	A
37)	The phase ‘Semantic Analysis’ is responsible for ____ in Compiler. (A) Check semantics (B) Static checking (C) Type checking (D) All of these	D
38)	Replacement of an expensive operation by a cheaper one is called (A) Reduction in strength (B) Loop-invariant computation (C) Code motion (D) None of these	A
39)	Which of the following is not a source of error? (A) Faulty design specification (B) Faulty algorithm (C) Compilers themselves (D) None of these	D
40)	Representing the syntax by a grammar is advantageous. What is the cause? (A) It is concise (B) It is accurate (C) Automation becomes easy (D) All of the above	D

41)	Which programming languages are classified as low level languages? (A) BASIC, COBOL, FORTRAN (B) Assembly languages (C) Knowledge based Systems (D) Prolog 2, Expert Systems	B
42)	Running time of a program depends on (A) the way the registers and addressing modes are used (B) the order in which computations are performed (C) the usage of machine idioms (D) all of these	D
43)	What are x and y in the following macro definition? macro Add x, y Load y Mul x Store y end macro (A) variables (B) identifiers (C) actual parameters (D) formal parameters	D
44)	In a compiler, keywords of language are recognized during (A) the code generation (B) parsing of the program (C) the lexical analysis of the program (D) dataflow analysis	C

45)	Compiler translates source code to ____________ (A) Machine code (B) Binary code (C) Executable code (D) Both A and B	D
46)	What is the output of lexical analyzer? (A) A list of tokens (B) Intermediate code (C) A parse tree (D) Machine code	A
47)	How many parts of compiler are there? (A) 8 (B) 4 (C) 2 (D) 1	C
48)	___________ is a process of finding a parse tree for a string of tokens. (A) Analyzing (B) Recognizing (C) Tokenizing (D) Parsing	D
49)	In a compiler, keywords of a language are recognized during (A) parsing of the program (B) the code generation (C) the lexical analysis of the program (D) dataflow analysis	C

50)	From where syntax analyzer take its input from? (A) Lexical analyzer (B) Syntactic Analyzer (C) Semantic Analyzer (D) None of the mentioned	A
51)	Local and loop optimization in turn provide motivation for (A) data flow analysis (B) constant folding (C) peep hole optimization (D) DFA and constant folding	A
52)	The lexical analyzer takes_________as input and produces a stream of_______as output. (A) Source program,tokens (B) Token,source program (C) Either A and B (D) None of the above	A
53)	Match all items in Group 1 with correct options from those given in Group 2. Group 1 Group 2 P. Regular expression 1. Syntax analysis Q. Pushdown automata 2. Code generation R. Dataflow analysis 3. Lexical analysis S. Register allocation 4. Code optimization (A) P-4. Q-1, R-2, S-3 (B) P-3, Q-1, R-4, S-2 (C) P-3, Q-4, R-1, S-2 (D) P-2, Q-1, R-4, S-3	B

54)	The grammar S → aSa | bS | c is (A) LL(1) but not LR(1) (B) LR(1)but not LR(1) (C) Both LL(1)and LR(1) (D) Neither LL(1)nor LR(1)	C
55)	What does a Syntactic Analyser do? (A) Maintain Symbol Table (B) Collect type of information (C) Create parse tree (D) None of the mentioned	C
56)	Semantic Analyser is used for? (A) Generating Object code (B) Maintaining symbol table (C) Generating Object code & Maintaining symbol table (D) None of the above	C
57)	Which phase of compiler is Syntax Analysis (A) First (B) Second (C) Third (D) Fifth	B
58)	Optimization of the program that works within a single block is called ______________ (A) Local Optimization (B) Global Optimization (C) Loop un-controlling (D) Loop controlling	A

59)	Compiler should report the presence of __________ in the source program, in translation process (A) Classes (B) Objects (C) Errors (D) Text	C
60)	Substitution of values for names whose values are constant, is done in (A) constant folding (B) local optimization (C) loop optimization (D) none of these	A
61)	The method which merges the bodies of two loops is (A) loop rolling (B) loop jamming (C) constant folding (D) none of these	B
62)	We can optimize code by (A) Dead code elimination (B) Common subprograms (C) Copy intermediate loop (D) Loop declaration	A
63)	By whom is the symbol table created? (A) Compiler (B) Interpreter (C) Assembler (D) None of the mentioned	A

64)	Given the following input (4322, 1334, 1471, 9679, 1989, 6171, 6173, 4199) and the hash function x mod 10, which of the following statements are true? i. 9679, 1989, 4199 hash to the same value ii. 1471, 6171 has to the same value iii. All elements hash to the same value iv. iv. Each element hashes to a different value (A) i only (B) ii only (C) i and ii only (D) iii or iv	C
65)	Consider a hash table with 100 slots. Collisions are resolved using chaining. Assuming simple uniform hashing, what is the probability that the first 3 slots are unfilled after the first 3 insertions? (A) (97 × 97 × 97)/100^3 (B) (99 × 98 × 97)/100^3 (C) (97 × 96 × 95)/100^3 (D) (97 × 96 × 95)/(3! × 100^3)	A
66)	Which one of the following hash functions on integers will distribute keys most uniformly over 10 buckets numbered 0 to 9 for i ranging from 0 to 2020? (A) h(i) =i^2 mod 10 (B) h(i) =i^3 mod 10 (C) h(i) = (11 ∗ i^2) mod 10 (D) h(i) = (12 ∗ i) mod 10	B
67)	Which items are stored in Symbol table? (A) Variable names and constants (B) Procedure and function names (C) Literal constants and strings (D) All of these	D

68)	Information used by compiler from Symbol table is / are (A) Data type and name (B) Declaring procedures (C) Offset in storage (D) All of these	D
69)	Commonly used data structure for implementing symbol table is (A) List (B) linked list (C) hash table (D) all of these	D
70)	Which of these is not true about Symbol Table? (A) All the labels of the instructions are symbols (B) Table has entry for symbol name address value (C) Perform the processing of the assembler directives (D) Created during pass 1	C
71)	________________ is used to generate code for boolean expression and flow of control statements in one pass. (A) Backpatching (B) Code-generator (C) Parser (D) Static checker	A
72)	Three address statement is abstract form of _________ (A) Source program (B) Intermediate code (C) Target program (D) Either a or b	B

73)	Elements of an array can be accessed quickly if the element are stored in a block of _______ location. (A) Sequential (B) Random (C) both 1 and 2 (D) none of the above	A
74)	The most powerful parser is ___________ (A) SLR (B) LALR (C) Canonical LR (D) Operator Precedence	C
75)	Some code optimizations are carried out on the intermediate code because (A) they enhance the portability of the compiler to other target processors (B) program analysis is more accurate on intermediate code than on machine code (C) the information from dataflow analysis cannot otherwise be used for optimization (D) the information from the front end cannot otherwise be used for optimization	A
76)	Which one of the following is a top-down parser? (A) Recursive descent parser. (B) Operator precedence parser. (C) An LR(k) parser. (D) An LALR(k) parser	A

77)	Consider the following two statements: P: Every regular grammar is LL(1) Q: Every regular set has a LR(1) grammar Which of the following is TRUE? (A) Both P and Q are true (B) P is true and Q is false (C) P is false and Q is true (D) Both P and Q are false	C
78)	The output of a lexical analyzer is (A) A parse tree (B) Intermediate code (C) Machine code (D) A stream of tokens	D
79)	In compiler, Source program is read by (A) Parser (B) lexical analyzer (C) developer (D) Analyst	B
80)	Source program is read (A) character by character (B) line by line (C) page by page (D) module wise	B
81)	The concept of Finite State Automaton is much used in this part of the compiler (A) lexical analysis (B) parser (C) code generation (D) code optimization	A

82)	Which grammar defines Lexical Syntax (A) Lexical Grammar (B) Context free Grammar (C) Regular Grammar (D) None of the above	A
83)	A compiler can check? (A) Logical Error (B) Syntax Error (C) Both Logical and Syntax Error (D) Not Logical and Syntax Error	B
84)	As an intermediate step in the construction of a lexical analyser, we first convert patterns into stylized flowchart called ------------------------ diagrams. (A) transition (B) syntax (C) semantic (D) data flow	A
85)	Transition diagram have a collection of nodes or circles called ------------------------ (A) states (B) steps (C) nodes (D) arcs	A
86)	A ------------------------ is a context free grammar together with attributes and rules (A) syntax-directed definition(SDD) (B) semantic-directed definition (C) syntax-directed derivation (D) semantic-directed derivation	A
87)	------------------------ are associated with grammar symbol in SDD (A) Attributes (B) Rules (C) Compiler (D) Interpreter	A

88)	----------------------- are associated with productions in SDD (A) Rules (B) Attributes (C) Compiler (D) Interpreter	A
89)	Consider the grammar where P, Q, R are not terminals and r, s, t are terminals i. P-&amp;gt;Q ii. P-&amp;gt;Q s R iii. P-&amp;gt;ε iv. P-&amp;gt;Q t R The grammar rules that violate the requirements of an operator grammar is (A) i and iii only (B) ii and iii only (C) i and iv only (D) i only	A
90)	The languages that need heap allocation in the runtime environment are (A) Those that use global variables (B) Those that support recursion (C) Those that use dynamic scoping (D) Those that allow dynamic data structure	D
91)	We have the grammar E-& gt;E + n I E x n I n. The handles in the right-sentential form of the reduction for a sentence n + n x n are (A) n, n + n and n + n x n (B) n, E + n and E x n (C) n, E + n and E + E x n (D) n, E + n and E + n x n	B

92)	Consider the grammar shown below S → i E t S S' | a S' → e S | ε E → b In the predictive parse table. M, of this grammar, the entries M[S', e] and M[S', $] respectively are
	(A){S' → e S} and {S' → e}
	(B) {S' → e S} and {}
	(C){S' → ε} and {S' → ε}
	(D){S' → e S, S'→ ε} and {S' → ε}
		D

93)	Consider the grammar shown below. S → C C C → c C | d The grammar is (A) LL(1) (B)SLR(1) but not LL(1) (C)LALR(1) but not SLR(1) (D)LR(1) but not LALR(1)	A
94)	Consider the grammar S → (S) | a Let the number of states in SLR(1), LR(1) and LALR(1) parsers for the grammar be n1, n2 and n3 respectively. The following relationship holds good (A)n1 < n2 < n3 (B)n1 = n3 < n2 (C)n1 = n2 = n3 (D)n1 ≥ n3 ≥ n2	B
95)	Two Important lexical categories are (A) White Space & Comments (B) White space and commas (C) Commas and quotations (D) None of the mentioned	A

96)	Language which have many types, but the type of every name and expression must be calculated at compile time are (A) weakly typed languages (B) loosely typed languages (C) strongly-type languages (D) none of these	C
97)	Terminal table (A) contains all constants in the program. (B) is a permanent table of decision rules in the form of patterns for matching with the uniform symbol table to discover syntactic structure. (C) consists of a full or partial list of the token is as they appear in the program created by lexical analysis and used for syntax analysis and interpretation. (D) is a permanent table which lists all keywords and special symbols of the language in symbolic form	D
98)	In compilation process, Hierarchical analysis is also called ____________. (A) Parsing (B) Syntax (C) Parsing and Syntax analysis (D) None of given	B
99)	What kind of abstract machine can recognize strings in a regular set? (A)DFA (B)NFA (C)PDA (D)None of the given	A
100)	Which of the following functions is/ are performed by the loader? (A) Allocate space in memory for the programs and resolve symbolic references between object decks (B) Physically place the machine instructions and data into memory (C) Adjust all address dependent locations, such as address constants, to correspond to the allocated space (D) All of the above	D

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