Professional Online Academy Vu Topper RM

CS606-Compiler Construction
Update MCQ'S Mid Term
By Vu Topper RM

Virtual University

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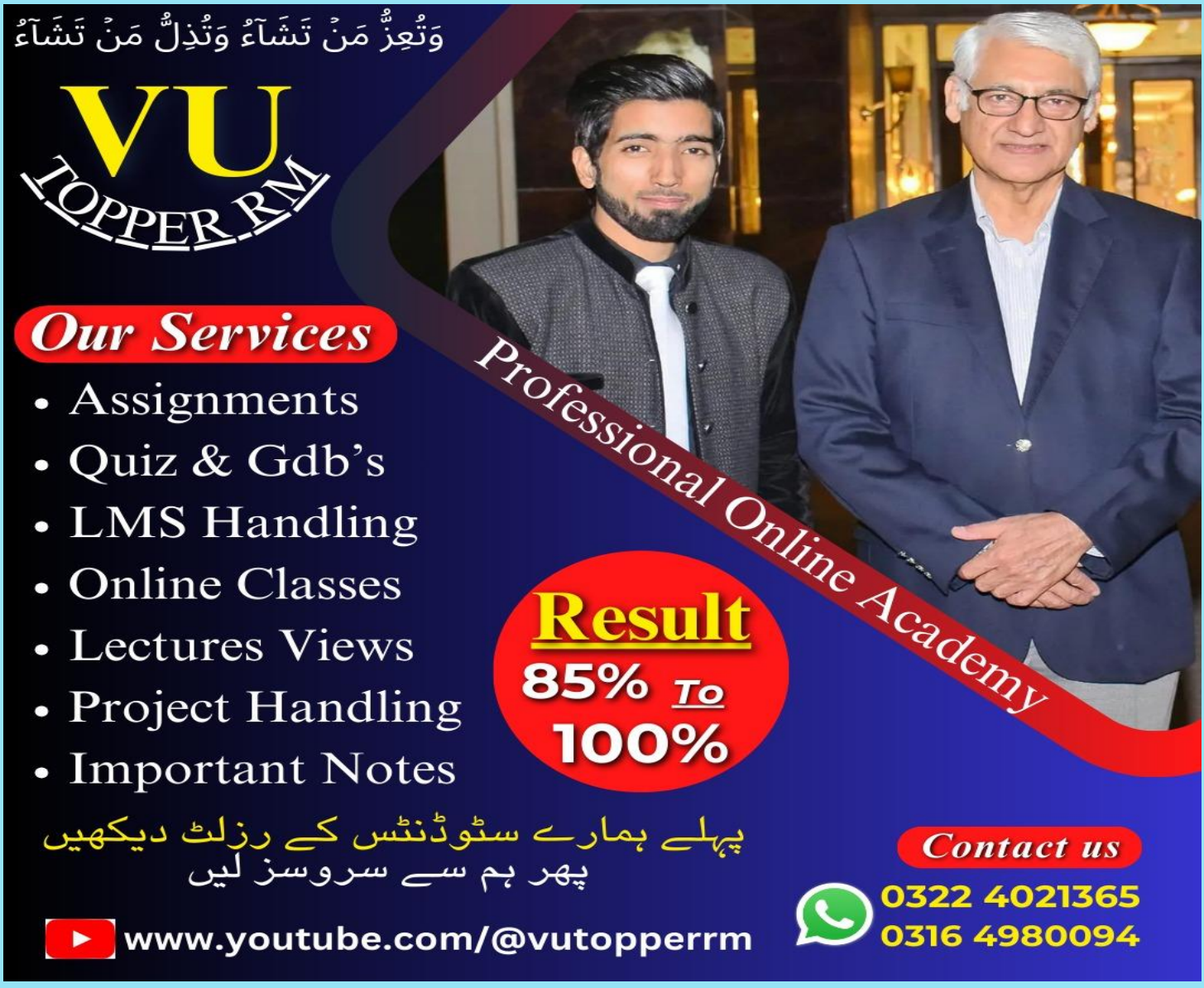

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بری صحبت سے تنہائی بہتر ہے اور تنہائی سے نیک صحبت بہتر ہے

Question No:1 **(Marks:1)** **Vu-Topper RM**

Parsers that capitalize on the _____ property are called predictive parsers.

A. LL(1)

B. LR(1)

C. RL(1)

D. RR(1)

Question No:2 **(Marks:1)** **Vu-Topper RM**

In the context of recursive descent parser in C++, how does the isPresent() function contribute to the construction of an abstract syntax tree?

A. It constructs the leaf nodes of the abstract syntax tree.

B. It validates the syntax of the expression.

C. It checks for the presence of factors in the expression.

D. It performs arithmetic operations on the parsed tokens.

Question No:3 **(Marks:1)** **Vu-Topper RM**

What is the purpose of the FIRST set in LL(1) parsing?

A. To determine the first set of all terminal symbols in the grammar

B. To determine the first terminal symbol in each production rule

C. To determine the first non-terminal symbol in each production rule

D. To determine the first set of all non-terminals in the grammar

Question No:4 **(Marks:1)** **Vu-Topper RM**

Non-recursive predictive parsing is particularly suitable for which type of grammars?

A. RR(1) Grammars

B. LL(1) Grammars

C. LR(1) Grammars

D. RL(1) Grammars

Question No:5 **(Marks:1)** **Vu-Topper RM**

In left-most derivation, the _____ non-terminal is replaced at each step.

A. Top-most

B. Left-most

C. Right-most

D. Bottom-most

Question No:6 **(Marks:1)** **Vu-Topper RM**

In the context of recursive descent parser in C++, what does the condition "op == PLUS || op == MINUS" check in the isPresent() function?

A. It validates the syntax of the expression.

B. It verifies if the current operator is addition or subtraction.

C. It ensures the correctness of the token stream.

D. It checks if the expression is valid.

Question No:7 **(Marks:1)** **Vu-Topper RM**

The basic idea behind predictive parsing is; If given A → α | β, then the parser should be able to choose between α & β.

A. True

B. False

Question No:8 **(Marks:1)** **Vu-Topper RM**

If S → ε, then FIRST (S) = ?

A. { α }

B. { ε }

C. { $ }

D. { γ }

Question No:9 **(Marks:1)** **Vu-Topper RM**

If S → a, then FOLLOW (S) = ?

A. { a }
B. { S }
C. { ε }
D. { $ }

Question No:10 (Marks:1) Vu-Topper RM
In the grammar "S → A | B | C | ε", what is the nullable non-terminal symbol?
A. C
B. S
C. B
D. A

Question No:11 (Marks:1) Vu-Topper RM
What is the resultant value of following expression? Expression: 100 * (2 + 12) / 14 - 1
A. 98
B. 101
C. 100
D. 99

Question No:12 (Marks:1) Vu-Topper RM
Does the production rule "S → a b | S c" belong to an LL(1) grammar?
A. Yes
B. No

Question No:13 (Marks:1) Vu-Topper RM
In the context of recursive descent parser in C++, what happens if the isPresent() function encounters a syntax error?
A. The function returns false.
B. The function calls the syntaxError() function.
C. The function advances to the next token.

D. The function returns true.

Question No:14 **(Marks:1)** **Vu-Topper RM**

If S ⟶ T U c, T → ε and U → ε, then FIRST (S) = ?

A. { T }

B. { c }

C. { ε }

D. { $ }

Question No:15 **(Marks:1)** **Vu-Topper RM**

What happens when a parsing error occurs during non-recursive predictive parsing?

A. The parser automatically corrects the error.

B. The parser switches to recursive parsing mode.

C. The input string is rejected as invalid.

D. The parsing process restarts from the beginning.

Question No:16 **(Marks:1)** **Vu-Topper RM**

Which phase of the compiler typically involves the use of a top-down parser?

A. Semantic Analysis

B. Syntax Analysis

C. Logical Analysis

D. Lexical Analysis

Question No:17 **(Marks:1)** **Vu-Topper RM**

In right-most derivation, the _____ non-terminal is replaced at each step.

A. Bottom-most

B. Right-most

C. Left-most

D. Top-most

Question No:18 **(Marks:1)** **Vu-Topper RM**
In arithmetic, division has _____ priority over subtraction.
A. Same
B. Higher
C. Equal
D. Lower

Question No:19 **(Marks:1)** **Vu-Topper RM**
In C++, the symbol for "bitwise OR" operator is _____.
A. ^
B. |
C. $
D. &

Question No:20 **(Marks:1)** **Vu-Topper RM**
The construction of an LL(1) parsing table also involves computing the first and follow sets for each _____.
A. Non-terminal
B. Node
C. Terminal
D. Token

Question No:21 **(Marks:1)** **Vu-Topper RM**
In C++, the symbol for "decrement" operator is _____.
A. -
B. ----
C. ---
D. --

Question No:22 **(Marks:1)** **Vu-Topper RM**
In a recursive descent parser, Term can be defined as a C++ class which should inherit from _____ class.

A. Token
B. Terminal
C. Node
D. Non-terminal

Question No:23 (Marks:1) Vu-Topper RM
Top-Down parser can handle left-recursive grammars easily.
A. False
B. True

Question No:24 (Marks:1) Vu-Topper RM
Non-recursive predictive parsing is a type of:
A. Recursive descent parsing
B. Shift-reduce parsing
C. Bottom-up parsing
D. Top-down parsing

Question No:25 (Marks:1) Vu-Topper RM
In a recursive descent parser, which direction does the descent occur?
A. Bottom-up
B. Top-down
C. Right-to-left
D. Left-to-right

Question No:26 (Marks:1) Vu-Topper RM
Recursive descent parser is also a kind of _____ parser.
A. Bottom-Up
B. LR(0)
C. Predictive
D. Shift-Reduce

Question No:27 **(Marks:1)** **Vu-Topper RM**

The code "if (a < b)) c = a + b ;" containing an extra closing parenthesis would result in a/an _____ error.

A. Behavior
B. Semantic
C. Logical
D. Syntax

Question No:28 **(Marks:1)** **Vu-Topper RM**

Identify an LL(1) grammar from the following;

A. E → c | d c
B. E → c d | E c
C. E → d c | E c
D. E → c | c d

Question No:29 **(Marks:1)** **Vu-Topper RM**

In C++, the symbol for "bitwise AND" operator is _____.

A. |
B. ^
C. $
D. &

Question No:30 **(Marks:1)** **Vu-Topper RM**

What is the purpose of the FOLLOW set in LL(1) parsing?

A. To determine the set of terminals that can follow a non-terminal
B. To determine the last symbol of a production rule
C. To determine the set of non-terminals that can follow a terminal
D. To determine the first symbol of a production rul

Question No:31 **(Marks:1)** **Vu-Topper RM**

If a production is A → XYZ, then the root of parse tree will be _____.

A. X
B. Z
C. Y
D. A

Question No:32 (Marks:1) Vu-Topper RM
The general idea behind the _____ construction is that each DFA state corresponds to a set of NFA states.
A. RE-to-NFA
B. NFA-to-DFA
C. DFA-to-NFA
D. RE-to-DFA

Question No:33 (Marks:1) Vu-Topper RM
In subset construction algorithm, the final states of the DFA are determined based on whether they contain any _____ states of the NFA.
A. Error
B. Start
C. Dead
D. Final

Question No:34 (Marks:1) Vu-Topper RM
_____ is the regular expression to represent all binary strings in which last two bits are 1.
A. 1(0|1)*1
B. (0)*11(1)*
C. 11(0|1)*
D. (0|1)*11

Question No:35 (Marks:1) Vu-Topper RM
In Flex, which section of a specification file contains "User code"?

A. Fourth Section
B. Second Section
C. Third Section
D. First Section

Question No:36 (Marks:1) Vu-Topper RM
In the context of token types, "if" and "else" are considered as _____.
A. Identifiers
B. Symbols
C. Strings
D. Keywords

Question No:37 (Marks:1) Vu-Topper RM
If an NFA has two states (a & b) and a transition from a to b on ε (i.e., epsilon), then ε-closure (a) = ?
A. ε
B. b
C. a
D. a, b

Question No:38 (Marks:1) Vu-Topper RM
Garbage collection helps prevent memory leaks and dangling pointers.
A. False
B. True

Question No:39 (Marks:1) Vu-Topper RM
The canonical collection is constructed by repeatedly applying which operations?
A. Closure and shift
B. Shift and reduce
C. Reduce and goto

D. Closure and goto

Question No:40 **(Marks:1)** **Vu-Topper RM**

Two or more NFAs can be combined by using _____.

Reload Math Equations

A. α-moves

B. Δ-moves

C. ε-moves

D. ϕ-moves

Question No:41 **(Marks:1)** **Vu-Topper RM**

In C++, the symbol for "increment" operator is _____.

Reload Math Equations

A. ++++

B. ++

C. +

D. +++

Question No:42 **(Marks:1)** **Vu-Topper RM**

If an NFA has a single state c, then ε-closure (c) = ?

A. ε

B. ϕ

C. c

D. o

Question No:43 **(Marks:1)** **Vu-Topper RM**

In a parse tree, each leaf is labeled by a _____ or by ε (i.e., epsilon) symbol.

A. Token
B. Non-Terminal
C. Scanner
D. IR

Question No:44 **(Marks:1)** **Vu-Topper RM**

The regular expression R+ (i.e., R raise to power +) can also be written as _____.

A. RR*
B. RR+
C. RR-
D. RR/

Question No:45 **(Marks:1)** **Vu-Topper RM**

A/an _____ in a transition graph refers to a transition from a state in the graph back to itself.

A. Cross-loop
B. Self-loop
C. Backward-loop
D. Forward-loop

Question No:46 **(Marks:1)** **Vu-Topper RM**

Which of the following is a common notation for describing a context-free grammar?

A. Regular Expressions (RE)
B. Binary Tree (BT)
C. Backus-Naur Form (BNF)
D. Parse Tree (PT)

Question No:47 **(Marks:1)** **Vu-Topper RM**

The back end maps Intermediate Representation (IR) into target _____.

A. Linker
B. Object code
C. Source code
D. Machine code

Question No:48 **(Marks:1)** **Vu-Topper RM**

In finite automaton, a transition table is basically a/an _____ array.

Reload Math Equations

A. Two-dimensional
B. Three-dimensional
C. Four-dimensional
D. One-dimensional

Question No:49 **(Marks:1)** **Vu-Topper RM**

In a CPU, memory access is faster than register access.

False
True

Question No:50 **(Marks:1)** **Vu-Topper RM**

In a regular expression, _____ are used to group characters together.

A. Curly Brackets {}
B. Angle Brackets <>
C. Square Brackets []

D. Parentheses ()

Question No:51 (Marks:1) Vu-Topper RM

In C++, the symbol for "Shift Left" operator is _____.

A. <<<<

B. <

C. <<<

D. <<

Question No:52 (Marks:1) Vu-Topper RM

Is it true that NFAs are easier to implement and simulate as compare to DFAs?

No

Yes

Question No:53 (Marks:1) Vu-Topper RM

On ε–moves, the automaton machine can move from state A to state B without consuming any input.

True

False

Question No:54 (Marks:1) Vu-Topper RM

Context-free syntax is specified with a grammar G = (S, N, T, P) where S represents _____ symbol.

A. Start

B. Last

C. Stop

D. First

Question No:55 **(Marks:1)** **Vu-Topper RM**

In Flex, which section of a specification file contains "C or C++ and flex definitions"?

A. Third Section
B. Fourth Section
C. First Section
D. Second Section

Question No:56 **(Marks:1)** **Vu-Topper RM**

_____ symbol is used to represent an empty string in a regular expression.

A. Epsilon (ε)
B. Theta (Θ)
C. Delta (Δ)
D. Gamma (γ)

Question No:57 **(Marks:1)** **Vu-Topper RM**

Which symbol is used as an OR operator in a regular expression?
Reload Math Equations

A. $
B. &
C. |
D. @

Question No:58 **(Marks:1)** **Vu-Topper RM**

The _____ takes in the stream of tokens, recognizes context-free syntax and reports errors.

A. Scheduler
B. Scanner
C. Parser
D. Optimizer

Question No:59 (Marks:1) Vu-Topper RM

Is it true that an NFA CAN NOT have multiple transitions for one input in a given state?

Yes

No

Question No:60 (Marks:1) Vu-Topper RM

How many tokens are there in the following statement? cout << "Compiler Construction" << endl ;

A. 6
B. 8
C. 7
D. 9

Question No:61 (Marks:1) Vu-Topper RM

In the context of Regular Expression, what does R* (i.e., R raise to power *) represent?

A. Three or more R
B. Zero or more R
C. Two or more R
D. One or more R

Question No:62 **(Marks:1)** **Vu-Topper RM**

In a CPU, which register/s is/are pre-allocated for specialized use?

A. Control registers

B. Pr ogram counter

C. Operand register

D. General-purpose registers

Question No:63 **(Marks:1)** **Vu-Topper RM**

In C++, _____ is the extension of a header file.

Reload Math Equations

A. .j

B. .i

C. .h

D. .g

Question No:64 **(Marks:1)** **Vu-Topper RM**

A tool that translates, say, Urdu into English could be labeled as a_____.

A. Scanner

B. Parser

C. Compiler

D. Lexer

Question No:65 **(Marks:1)** **Vu-Topper RM**

The front end of a compiler consists of _____ module(s).

A. Four

B. Three

C. Two

D. One

Question No:66 **(Marks:1)** **Vu-Topper RM**

What is the typical output of a lexical analyzer?

A. The stream of tokens or lexemes

B. The intermediate code representation

C. The final executable program

D. The abstract syntax tree (AST)

Question No:67 **(Marks:1)** **Vu-Topper RM**

While converting an NFA into a corresponding DFA, the start state of the DFA will be the _____ of the start state of the NFA.

A. α-closure

B. ε-closure

C. Δ-closure

D. ϕ-closure

Question No:68 **(Marks:1)** **Vu-Topper RM**

The acceptance of an NFA for a given string is achieved if it can get in a _____ state.

A. Error

B. Start

C. Dead

D. Final

Question No:69 **(Marks:1)** **Vu-Topper RM**

What is the resultant value of following expression?

Expression: 7 + 2 * (9 / 3) - 1

A. 26
B. 10
C. 28
D. 12

Question No:70 (Marks:1) Vu-Topper RM

In a context-free grammar, the non-terminal symbol that represents the starting point of the language is called a/an _____.

A. Start
B. End
C. Unique
D. Unit

Question No:71 (Marks:1) Vu-Topper RM

For each production rule A → α in an LL(1) parsing table, if there is another production rule A → β, then FIRST(α) ∩ FIRST(β) = ?

A. β
B. Ø
C. α
D. γ

Question No:72 (Marks:1) Vu-Topper RM

What is the significance of the term "context-free" in a context-free grammar?

A. It implies that the grammar is free from any restrictions or limitations.
B. It signifies that the rewriting rules are independent of the surrounding symbols.

C. It indicates that the grammar can generate all possible languages.
D. It specifies that the grammar is designed to handle complex contextual dependencies.

Question No:73 (Marks:1) Vu-Topper RM

The non-terminal symbols encountered during parsing are stored in a:

A. Linked list
B. Binary tree
C. Queue
D. Stack

Question No:74 (Marks:1) Vu-Topper RM

It is said that the syntax of C, C++ and Java is derived heavily from _____.

A. Algol-60
B. Algol-70
C. Ada-70
D. Ada-60

Question No:75 (Marks:1) Vu-Topper RM

LR parsers CAN NOT handle left-recursive grammars.

A. True
B. False

Question No:76 (Marks:1) Vu-Topper RM

The production rule "S → s S | ε " represents a Left-Recursive Grammar.

A. No
B. Yes

Question No:77 **(Marks:1)** **Vu-Topper RM**

If S → c S d a, then FIRST (S) = ?

A. { S }

B. { d }

C. { c }

D. { a }

Question No:78 **(Marks:1)** **Vu-Topper RM**

In recursive descent parser, the term "descent" refers to the direction in which the parse tree is built.

A. False

B. True

Question No:79 **(Marks:1)** **Vu-Topper RM**

If S → a T b and T → c then FIRST (T) = ?

A. { c }

B. { a }

C. { $ }

D. { ε }

Question No:80 **(Marks:1)** **Vu-Topper RM**

For the grammar "S → a c T | a U", it is very easy to predict because two productions start with 'a'.

A. True

B. False

Question No:81 **(Marks:1)** **Vu-Topper RM**

In a recursive descent parser, Factor is defined as a C++ class that contains following two public methods;

A. A destructor and an abstract method

B. A destructor and a friend method

C. A constructor and a virtual method

D. A constructor and a simple method

Question No:82 **(Marks:1)** **Vu-Topper RM**

The statement "construct the root node of the parse tree" is considered as a first step in a top-down parsing algorithm.

A. True

B. False

Question No:83 **(Marks:1)** **Vu-Topper RM**

In an LL(1) grammar, there should be NO conflicts (i.e., multiple entries in a cell) in the parsing table.

A. True

B. False

Question No:84 **(Marks:1)** **Vu-Topper RM**

If S → S T and T → t, then FOLLOW (T) = ?

A. { $, S }

B. { $, t }

C. { ε, S }

D. { ε, t }

Question No:85 **(Marks:1)** **Vu-Topper RM**

The LL(1) parsing table is used by the LL(1) parser to parse the input and generate a parse _____.

A. Stack
B. Queue
C. Array
D. Tree

Question No:86 **(Marks:1)** **Vu-Topper RM**

Grammar with the _____ property is called a predictive grammar.

A. RR(1)
B. RL(1)
C. LL(1)
D. LR(1)

Question No:87 **(Marks:1)** **Vu-Topper RM**

In shift-reduce parsing, Shift action moves ► one place to the _____ which shifts a terminal to the left string.

A. Top
B. Left
C. Right **Page 71**
D. Bottom

Question No:88 **(Marks:1)** **Vu-Topper RM**

In a recursive descent parser, Factor can be defined as a C++ class which should inherit from _____ class.

A. Terminal

B. Non-terminal
C. Token
D. Node

Question No:89 (Marks:1) Vu-Topper RM

The convention in most programming languages is to match the else with the _____ if.

A. Most Upcoming
B. Very Last
C. Very First
D. Most Recent

Question No:90 (Marks:1) Vu-Topper RM

In LR grammar, the R stands for _____.

A. Right most derivation
B. Right hand side of grammar
C. Right to left scan
D. Right shift

Question No:91 (Marks:1) Vu-Topper RM

If find ε in FIRST(α), the production rule "A → α" should be added to the LL(1) parsing table entry M[A, b] for each terminal 'b' in:

A. FIRST(A)
B. FIRST(B)
C. FOLLOW(A)
D. FOLLOW(B)

Question No:92 **(Marks:1)** **Vu-Topper RM**

In a context-sensitive grammar, what does the term "context-sensitive" refer to?

A. The grammar's ability to recognize patterns without considering context.

B. The grammar's ability to rewrite non-terminals regardless of context.

C. The grammar's ability to generate strings based on surrounding context.

D. The grammar's ability to handle any number of terminals and non-terminals.

Question No:93 **(Marks:1)** **Vu-Topper RM**

The main advantage of non-recursive predictive parsing is:

A. Avoidance of stack overflow errors

B. Simpler implementation

C. Reduced memory usage

D. Faster parsing speed

Question No:94 **(Marks:1)** **Vu-Topper RM**

For each _____, add production rule "A → α" to LL(1) parsing table entry M[A, a].

A. Non-terminal 'A' in FIRST(α).

B. Terminal 'a' in FIRST(α).

C. Non-terminal 'A' in FOLLOW(α).

D. Terminal 'a' in FOLLOW(α).

Question No:95 **(Marks:1)** **Vu-Topper RM**

In the context of recursive descent parser in C++, what is the purpose of the tree variable in the Eprime class?

A. To store the intermediate abstract syntax tree.
B. To store the result of the isPresent() function.
C. To represent the root node of the abstract syntax tree.
D. To keep track of the current expression being parsed.

Question No:96 **(Marks:1)** **Vu-Topper RM**

In the context of recursive descent parser in C++, what is the return type of the isPresent() function in the Eprime class?

A. double
B. int
C. float
D. bool

Question No:97 **(Marks:1)** **Vu-Topper RM**

After performing left factoring on the grammar "S → a X | a", the resultant grammar will be;

A. S → X a, S'→ S | ε
B. S → a X, S'→ S | ε
C. S → a S', S'→ X | ε
D. S → S' a, S'→ X | ε

Question No:98 **(Marks:1)** **Vu-Topper RM**

If E → T and T → a, then FOLLOW (T) = ?

A. { E }
B. { T }

C. { $ }
D. { a }

Question No:99 **(Marks:1)** **Vu-Topper RM**

Identify a left recursive grammar from the following;

A. S → a S b c | ε
B. S → a b S c | ε
C. S → S a b c | ε
D. S → a b c S | ε

Question No:100 **(Marks:1)** **Vu-Topper RM**

In the grammar "T → a b c d | a b d c", the _____ is a common prefix for non-terminal 'T'.

A. b d
B. a c
C. c d
D. a b

Question No:101 **(Marks:1)** **Vu-Topper RM**

Which of the following is an example of a context-sensitive grammar rule?

A. αAβ → αγβ
B. A ← α
C. αAβ ← αγβ
D. A → α

Question No:102 **(Marks:1)** **Vu-Topper RM**

Which of the following production rules indicates a nullable non-terminal?

A. S → a
B. U → c
C. V → ε
D. T → b

Question No:103 **(Marks:1)** **Vu-Topper RM**

In compiler construction, an LR parser is a type of:

A. Bottom-up parser
B. Recursive descent parser
C. Top-down parser
D. Non-recursive parser

Question No:104 **(Marks:1)** **Vu-Topper RM**

In the reduce action, the shift-reduce parser applies an inverse production at the right end of the _____ string.

A. Top
B. Left **Page 72**
C. Right
D. Bottom

Question No:105 **(Marks:1)** **Vu-Topper RM**

In LR grammar, the L stands for _____.

A. Left most derivation
B. Left to right scan
C. Left hand side of grammar

D. Left Shift

Question No:106 **(Marks:1)** **Vu-Topper RM**

In the grammar "A → a d c b | a d b c", the _____ is a common prefix for non-terminal 'A'.

A. b
B. a b c d
C. d c b
D. a d

Question No:107 **(Marks:1)** **Vu-Topper RM**

Non-recursive predictive parsing is a technique used for:

A. Optimizing the performance of recursive functions.
B. Analyzing runtime behavior of programs.
C. Debugging software applications.
D. Analyzing the syntax of a programming language.

Question No:108 **(Marks:1)** **Vu-Topper RM**

In the context of recursive descent parser in C++, what does the "s → nextToken() != RPAREN" condition check?

A. If the next token is not a right parenthesis.
B. If the next token is an identifier or number.
C. If the next token is a left parenthesis.
D. If the next token is an arithmetic operator.

Question No:109 **(Marks:1)** **Vu-Topper RM**

The parsing completion criteria in non-recursive predictive parsing include:

A. Non-empty stack and remaining input tokens
B. Empty stack and remaining input tokens
C. Empty stack and consumed input tokens
D. Non-empty stack and consumed input tokens

Question No:110 **(Marks:1)** **Vu-Topper RM**

Which of the following is a valid production rule in a context-free grammar?

A. B ← A + C
B. A + C → B
C. A + C ← B
D. B → A + C

Question No:111 **(Marks:1)** **Vu-Topper RM**

Which of the following is an example of a context-free grammar rule?

A. A ← α
B. αAβ ← αγβ
C. A → α
D. αAβ → αγβ

Question No:112 **(Marks:1)** **Vu-Topper RM**

In a recursive descent parser, Expr can be defined as a C++ class which should inherit from _____ class.

A. Token
B. Node
C. Terminal
D. Non-terminal

Question No:113 **(Marks:1)** **Vu-Topper RM**

The rule "S → ε" says that the symbol S CAN NOT be rewritten as an empty string.

A. True

B. False

Question No:114 **(Marks:1)** **Vu-Topper RM**

If FIRST(α) = {ε} and _____, then add production rule "A → α" to LL(1) parsing table entry M[A, $].

A. FOLLOW(α) = {a}

B. FOLLOW(α) = {$}

C. FOLLOW(α) = {A}

D. FOLLOW(α) = {ε}

Question No:115 **(Marks:1)** **Vu-Topper RM**

Top-Down parser is also called a/an _____ parser.

A. Predictive

B. LR(0)

C. Bottom-Up

D. Shift-Reduce

Question No:116 **(Marks:1)** **Vu-Topper RM**

In the production rule "A ⟶ b C d", what symbol appears on the left side?

A. C

B. b

C. d

D. A

Question No:117 **(Marks:1)** **Vu-Topper RM**

In arithmetic, addition has _____ priority over multiplication.

A. Lower

B. Higher

C. Equal

D. Same

Question No:118 **(Marks:1)** **Vu-Topper RM**

In the production rule "A ⟶ b C D", the symbol D appears on the _____ side of the production rule.

A. Left

B. Right

C. Bottom

D. Top

Question No:119 **(Marks:1)** **Vu-Topper RM**

In the context of LL(1) parser, if top symbol of stack 'X' and current input symbol 'a' are equal to end-of-input marker '$' (i.e., X = a = $) then the parser;

A. Pops 'X' from Stack.

B. Generates an error message.

C. Announces successful completion.

D. Pushes 'a' into Stack

Question No:120 **(Marks:1)** **Vu-Topper RM**

If S ⟶ x y z a, then FIRST (S) = ?

A. { y }

B. { a }

C. { z }

D. { x }

Question No:121 **(Marks:1)** **Vu-Topper RM**

The formal definition of FIRST set is:

A. FIRST(X) = {b | X →* ba} ∪ {ε | X →* ε}

B. FIRST(X) = {b | X →* ba} ⊂ {ε | X →* ε}

C. FIRST(X) = {b | X →* ba} ∩ {ε | X →* ε}

D. FIRST(X) = {b | X →* ba} ⊃ {ε | X →* ε}

Question No:122 **(Marks:1)** **Vu-Topper RM**

If S ⟶ T U c, T → t and U → ε, then FOLLOW (T) = ?

A. { ε }

B. { c }

C. { t }

D. { $ }

Question No:123 **(Marks:1)** **Vu-Topper RM**

The front end maps legal _____into an Intermediate Representation (IR).

A. Object code

B. Machine code

C. Linker

D. Source code

Question No:124 **(Marks:1)** **Vu-Topper RM**

_____ is the regular expression to represent all binary strings in which last bit is 0. A. (0|1)*1

B. (0|1)*0

C. 0(0|1)*

D. 1(0|1)*

Question No:125 (Marks:1) Vu-Topper RM

Is it true that no algorithm exists for an "ideal translation"?

A. Yes

B. No

Question No:126 (Marks:1) Vu-Topper RM

_____is not the role of Run-Time System?

A. Garbage collection

B. Run-time type checking

C. Syntax analysis

D. Memory management

Question No:127 (Marks:1) Vu-Topper RM

_____ is a compiler used in Java.

A. JavaD

B. JavaB

C. JavaE

D. JavaC

Question No:128 (Marks:1) Vu-Topper RM

_____ are generally ignored by the compiler.

A. Strings

B. Integers

C. White Spaces

D. Keywords

Question No:129 **(Marks:1)** **Vu-Topper RM**

Which of the following strings belong to the language specified by this regular expression: (abb)*a

A. bba

B. a

C. aaa

D. ba

Question No:130 **(Marks:1)** **Vu-Topper RM**

In the context of token role in a lexical analyzer, identify a "Symbol" from the following;

A. If

B. = =

C. 12

D. y11

Question No:131 **(Marks:1)** **Vu-Topper RM**

Which of the following commands is used to generate a scanner executable file in Windows? A. g++ –o main.o lex.exe lex.o

B. g++ –o lex.o main.o lex.exe

C. g++ –o lex.o lex.exe main.o

D. g++ –o lex.exe lex.o main.o

Question No:132 **(Marks:1)** **Vu-Topper RM**

An application that converts a Word file to PDF can be called as a/an _____.

A. Debugger

B. Translator

C. Linker

D. **Processor**

Question No:133 **(Marks:1)** **Vu-Topper RM**

In C++, _____ refers to spaces, tabs and newlines etc.

A. Whitespace

B. Struct

C. Character

D. String

Question No:134 **(Marks:1)** **Vu-Topper RM**

If an NFA has a single state b, which has a self-loop on input 0, then move (b, 0) = ?

A. b

B. 0

C. ϕ

D. ε

Question No:135 **(Marks:1)** **Vu-Topper RM**

How many tokens are there in the following statement? a = b+++c--d+e ;

A. 10

B. 11
C. **12**
D. 13

Question No:136 (Marks:1) Vu-Topper RM

_____ architecture made the job of the compiler harder when it came to generate efficient machine code.

A. CISC
B. VLIW
C. RISC
D. EPIC

Question No:137 (Marks:1) Vu-Topper RM

If a production is A → XYZ, then parse tree will have _____ terminal/s.

A. One
B. Three
C. Four
D. **Two**

Question No:138 (Marks:1) Vu-Topper RM

In a transition table, cells of the table contain the _____ state.

A. Next State
B. Previous State
C. Accept state
D. Reject State

Question No:139 **(Marks:1)** **Vu-Topper RM**

Which component in a CPU provides high-speed access to operands?

A. ALU

B. Cache

C. Memory

D. Register

Question No:140 **(Marks:1)** **Vu-Topper RM**

_____ is a process used to reduce the number of states in a DFA while preserving the language it recognizes.

A. DFA Minimization

B. DFA Maximization

C. NFA Maximization

D. NFA Minimization

Question No:141 **(Marks:1)** **Vu-Topper RM**

If an NFA has a single state c, then ε-closure (c) = ?

A. ϕ

B. o

C. c

D. ε

Question No:142 **(Marks:1)** **Vu-Topper RM**

The back end maps _____ into target Machine code.

A. Intermediate Representation (IR)

B. Linker

C. Machine code

D. Object code

Question No:143 (Marks:1) Vu-Topper RM

In C++, the symbol for "bitwise XOR" operator is _____.

A. |

B. &

C. $

D. ^

Question No:144 (Marks:1) Vu-Topper RM

The _____ code typically runs as a process in an Operating System Environment.

A. Executable

B. Object

C. Machine

D. Source

Question No:145 (Marks:1) Vu-Topper RM

Which of the following is an example of a valid identifier?

A. _myVariable

B. 123variable

C. variable name

D. 2ndVariable

Question No:146 (Marks:1) Vu-Topper RM

For building a/an _____, the tokens are encoded using regular expressions. A. Semantic Analyzer

B. Lexical Analyzer

C. Optimistic Analyzer

D. Syntactical Analyzer

Question No:147 (Marks:1) Vu-Topper RM

In Flex, what does the regular expression [a-zA-Z][a-zA-Z0-9]* match?

A. Symbols

B. Integers

C. Whitespaces

D. Identifiers

Question No:148 (Marks:1) Vu-Topper RM

Code optimization is performed in the _____ of a compiler. A. Back-end

B. Middle-end

C. Front-end

D. Last-end

Question No:149 (Marks:1) Vu-Topper RM

The machine code generated by a compiler must execute precisely the same computation as the source code.

A. True

B. False

Question No:150 (Marks:1) Vu-Topper RM

In subset construction algorithm, _____ is a set of states which are reachable from state T on ε-transitions.

A. follow (T, α)

B. first (T)
C. move (T, α)
D. ε-closure (T)

Question No:151 (Marks:1) Vu-Topper RM
In a parse tree, the root is labeled by the _____ symbol.
A. Next
B. Previous
C. Start
D. Last

Question No:152 (Marks:1) Vu-Topper RM
A compiler converts a/an _____ language code into a lowlevel machine code. A. Low-level
B. Bottom-level
C. High-level
D. Medium-level

Question No:153 (Marks:1) Vu-Topper RM
The primary goal of the _____ of a compiler is to reduce running time of the compiled code.
A. Middle-end
B. Start-end
C. Back-end
D. Front-end

Question No:154 **(Marks:1)** **Vu-Topper RM**

In C++, the symbol for "Bitwise Complement" operator is _____.

A. ~

B. |

C. &

D. $

Question No:155 **(Marks:1)** **Vu-Topper RM**

Most of the modern compilers contain _____ stages.

A. Three

B. Four

C. Two

D. One

Question No:156 **(Marks:1)** **Vu-Topper RM**

How many tokens are there in the following statement? for (int i = 0 ; i < 10 ; i++) { /*body of loop*/ }

A. 17

B. 16

C. 18

D. 15

Question No:157 **(Marks:1)** **Vu-Topper RM**

In Flex, which section of a specification file contains "Token definitions and actions"?

A. Fourth Section

B. Third Section

C. First Section

D. Second Section

Question No:158 (Marks:1) Vu-Topper RM

The regular expression that allows all upper-case alphabets is _____.

A. [A/Z]

B. [A*Z]

C. [A-Z]

D. [A+Z]

Question No:159 (Marks:1) Vu-Topper RM

Interpreters can be used for scripting languages, which are designed to automate tasks and provide a high level of abstraction.

A. True

B. False

Question No:160 (Marks:1) Vu-Topper RM

The parse tree contains a lot of unneeded information. Therefore, compilers often use a/an _____.

A. Balanced Tree

B. AVL Tree

C. Binary Search Tree

D. Abstract Syntax Tree

Question No:161 **(Marks:1)** **Vu-Topper RM**

If an NFA has two states (a & b) and a transition from a to b on input 1, then move (a, 1) = ?

A. a

B. ε

C. b

D. 0

Question No:162 **(Marks:1)** **Vu-Topper RM**

Instruction Selection is an important part of _____ module of a compiler. A. Front-end

B. Start-end

C. Back-end

D. Middle-end

Question No:163 **(Marks:1)** **Vu-Topper RM**

Which approach is most frequently used to handle the complexity of translating programming languages?

A. Single-Pass translation

B. Recursive translation

C. Multi-Pass translation

D. Automated translation

Question No:164 **(Marks:1)** **Vu-Topper RM**

In subset construction algorithm, _____ is a set of NFA states to which there is a transition on input α from some NFA state S in set of states T. A. first (T)

B. follow (T, α)

C. ε-closure (T)

D. move (T, α)

Question No:165 (Marks:1) Vu-Topper RM

What is the output of a back-end module of a compiler?

A. Source Code

B. IR

C. Token

D. Machine Code

Question No:166 (Marks:1) Vu-Topper RM

In a parse tree, each interior node is labeled by a _____. A. Root

B. Non-Terminal

C. Terminal

D. Token

Question No:167 (Marks:1) Vu-Topper RM

In Flex specification file different sections are separated by _____ .

A. &&

B. //

C. ##

D. %%

Question No:168 (Marks:1) Vu-Topper RM

Front-end of a compiler takes_____ as input.

A. Binary code

B. Object code
C. Machine code
D. Source code

Question No:169 (Marks:1) Vu-Topper RM
" ", "ab" , "abab"... are the strings of a language denoted by following Regular Expression:
A. a
B. ab
C. (ab)*
D. alb

Question No:170 (Marks:1) Vu-Topper RM
What does GCC stands for?
A. GNU Compiler Codes
B. GNU Compiler Collections
C. GNU Computer Codes
D. GNU Computer Collections

Question No:171 (Marks:1) Vu-Topper RM
_____ translates information from one representation to another.
A. Compiler
B. Scanner
C. Debugger
D. Translator

Question No:172 **(Marks:1)** **Vu-Topper RM**

Compared to compilers, interpreters are best for _____ languages.

A. Object Oriented

B. Functional

C. Scripting

D. Procedural

Question No:173 **(Marks:1)** **Vu-Topper RM**

In C++, the symbol for "Shift Right" operator is _____.

A. >

B. >>

C. >>>>

D. >>>

Question No:174 **(Marks:1)** **Vu-Topper RM**

Context-free syntax is specified with a grammar G = (S, N, T, P), where production rules are represented by _____.

A. P

B. T

C. N

D. S

Question No:175 **(Marks:1)** **Vu-Topper RM**

In the context of token role in a lexical analyzer, identify an "Identifier" from the following;

A. 12

B. = =

C. if

D. y11

Question No:176 (Marks:1) Vu-Topper RM

_____avoids hardware stalls and interlocks.

A. Instruction scheduling

B. Instruction selection

C. Memory allocation

D. Register allocation