

CS606
Midterm MCQ
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BSCS

1: An LR parser does not need to examine the entire stack for a handle, the state symbol on the top of the stack contains all the information it needs

LR parser

RL parser

BU parser

None of the giv

2: Yacc contains built-in support for handling ambiguous grammars resulting in shift-reduce conflicts. By default these conflicts are solved by performing the shift action.

Shift action

Reduce action

Shift and reduce actions

De-allocation of memory

3: $S \rightarrow A \mid xb$

$A \rightarrow aAb \mid x$

This grammar contains a reduce-reduce conflict

True

False

4: $S \rightarrow a \mid B$

$B \rightarrow Bb \mid E$

The non-terminal B is left recursive.

B

A

E

None of the given

5: When generating a lexical analyzer from a regular expression description, the item sets (states) are constructed by two types of “moves”: character moves and e moves.

Character

Grammar

Token (Page 18)

Sentence

6: Left factoring is enough to make a grammar LL(1).

True

False

7: $S \rightarrow AB$

$A \rightarrow e \mid aA$

$B \rightarrow e \mid bB$

FIRST(S) contains ____ elements.

3

4

5

6

7: Grammars with LL(1) conflicts can be made LL(1) by applying left-factoring, substitution, and left-recursion removal. Left-factoring takes care of _____ conflicts.

FIRST/FIRST

FIRST/SECOND

SECOND/FIRST

None of the given

8: Alternative of the backtrack in parser is Look ahead symbol in _____ .

Input (Page 46)

Output

Input and Output

None of the given

9: Typical compilation means programs written in high-level languages to low-level _____.

Object code (page 2)

Byted code

Unicode

Both Object Code and byte code

10: In PASCAL _____ represent the inequality test.

:

:=

=

<>

None of the given

11: LR parsing _____ a string to the start symbol by inverting productions.

Reduces (Page 63)

Shifts

Adds

None of the given

12: In parser the two LL stand(s) for _____ .

Left-to-right scan of input

left-most derivation

All of the given (Page 47)

None of the given

13: Parser always gives a tree like structure as output

True (Page 37)

False

14: Lexer and scanner are two different phases of compiler

True

False (Page 12)

15: In compilation process Hierarchical analysis is also called-----

Parsing

Syntax analysis click here 4 details

Both Parsing and Syntax analysis

None of given

16: Ambiguity can easily be handled by Top-down Parser Select correct option:

True Click here 4 details

False

17: Front-end of a two pass compiler is consists of Scanner.

True (Page 5)

False

18: LL(1) parsing is called non-predictive parsing.

True Click here 4 details

False

19: In predictive parsing table the rows are _____ .

Non-terminals (Page 54)

Terminals

Both non-terminal and terminals

None of the given

20: In LL1() parsing algorithm _____ contains a sequence of grammar symbols.

Stack (Page 55)

Link list

Array

None

21: Consider the grammar

$A \rightarrow B C D$

$B \rightarrow h B \mid \epsilon$

$C \rightarrow C g \mid g \mid C h \mid i$

$D \rightarrow A B \mid \epsilon$

First of C is _____ .

h

g, I

g, h, I, \$

g

22: AST summarizes the grammatical structure with the details of derivations.

True

False (Page 8)

23: Left factoring is enough to make LL1 grammar

True

False (Rep)

24: A grammar is LR if a ----- shift reduce-reduce parser can recognize handles when they appear on the top of stack.

left-to-reverse

left-to-rise

left-to-right Click here for detail

None of the given

25: Reduction of a handle to the ----- on the left hand side of the grammar rule is a step along the reverse of a right most derivation.

Terminal

Non-terminal

26: The regular expressions $a^*|b^*$ and $(a|b)^*$ describe the _____ set of strings.

Same

Different

Onto

27: Yacc contains built-in support for handling ambiguous grammars resulting in _____ conflicts.

Shift-reduce

Shift-Shift

Shift-second

None of the given

28: A lexical analyzer generator automatically constructs a _____ that recognizes tokens.

FA (Page 18)

PDA
DP
None of the given

29: The following two items $A \rightarrow P \cdot Q$ $B \rightarrow P \cdot Q$ can co-exist in an _____ item set.

LR
LS
LT
PR

30: LR parsers can handle _____ grammars.

Left-recursive (Page 63)

file-recursive
End-recursive
Start-recursive

31: _____ convert the reloadable machine code into absolute machine code by linking library and reloadable object files.

Assembler
Loader/link-editor
Compiler
Preprocessor

32: One of the core tasks of compiler is to generate fast and compact executable code.

True (Page 2)

False

33: Compilers are sometimes classified as.

Single pass
Multi pass
Load and go
All of the given

34: Which of the statement is true about Regular Languages?

Regular Languages are the most popular for specifying tokens.
Regular Languages are based on simple and useful theory.
Regular Languages are easy to understand.

All of the given (Page 15)

35: The transition graph for an NFA that recognizes the language $(a | b)^*abb$ will have following set of states.

$\{0\}$
 $\{0,1\}$
 $\{0,1,2\}$
 $\{0,1,2,3\}$

36: Functions of Lexical analyzer are?

Removing white space

Removing constants, identifiers and keywords

Removing comments

All of the given

37: Flex is an automated tool that is used to get the minimized DFA (scanner).

True

False (Page 26)

38: We use ----- to mark the bottom of the stack and also the right end of the input when considering the Stack implementation of Shift-Reduce Parsing.

1. Epsilon

2. #

3. \$ **Click here for detail**

4. None of the given

39: When generating a lexical analyzer from a token description, the item sets (states) are constructed by two types of “moves”: character moves and ____ moves.

1. **E Click here for detail**

2. #

3. @

4. none of given

40: Bottom-up parsers handle a _____ class of grammars.

1. **Large (Page 42)**

2. small

3. medium

4. none of the given

41: Parser takes tokens from scanner and tries to generate _____ .

Binary Search tree

Parse tree

Syntax tree (Page 8)

None of the given

42: In Flex specification file different sections are separated by _____ .

%% (Page 26)

&&

##

\\

43: In DFA minimization we construct one _____ for each group of states from the initial DFA.

State (Page 25)

NFA

PDA

None of given

44: Consider the grammar $A \rightarrow B C D$

$B \rightarrow h B \mid \epsilon$

$C \rightarrow C g \mid g \mid C h \mid i$

$D \rightarrow A B \mid \epsilon$

Follow of B is _____ .

h

g, h, i, \$

g, i

g

45: Consider the grammar $A \rightarrow B C D$

$B \rightarrow h B \mid \epsilon$

$C \rightarrow C g \mid g \mid C h \mid i$

$D \rightarrow A B \mid \epsilon$

Follow of C is _____ .

g, h, i, \$ (Page 47)

g, h, \$

h, i, \$

h, g, \$

46: An important component of semantic analysis is _____ .

code checking

type checking (Page 6)

flush checking

None of the given

47: Intermediate Representation (IR) stores the value of its operand in

_____ .

Registers

Memory

Hard disk

Secondary storage

48: _____ algorithm is used in DFA minimization.

James's

Robert's

Hopcroft's (Page 25)

None of given

49: A _____ is a top down parser.

Predictive Parsing (Page 46)

Reactive parser

Proactive parser
None of the given

50: Lexical Analyzer generator _____ is written in Java.

Flex

Jlex (Page 26)

Complex

None of given

51: _____ avoid hardware stalls and interlocks.

Register allocation

Instruction scheduling (Page 10)

Instruction selection

None of given

52: Recursive _____ parsing is done for LL(1) grammar.

Decent (Page 47)

Ascent

Forward

Backward

53: Left factoring of a grammar is done to save the parser from back tracking.

True (Page 61)

False

54: Responsibility of _____ is to produce fast and compact code.

Instruction selection (Page 9)

Register allocation

Instruction scheduling

None of given

55: Optimal registers allocation is an NP-hard problem.

True

False (Page 10)

56: Front end of two pass compiler takes _____ as input.

Source code (Page 5)

Intermediate Representation (IR)

Machine Code

None of the Given

57: In Three-pass compiler _____ is used for code improvement or optimization.

Front End

Middle End (Page 10)

Back End

Both Front end and Back end

58: _____ of a two-pass compiler is consists of Instruction selection, Register allocation and Instruction scheduling.

Back end (Page 9)

Front end

Start

None of given

59: NFA is easy to implement as compared to DFA.

True

False (Page 19)

60: In Back End module of compiler, optimal register allocation uses _____ .

$O(\log n)$

$O(n \log n)$

N P-Complete (Page 10)

None of the given

61: In a transition table cells of the table contain the _____ state.

Reject state

Next state (Page 18)

Previous state

None of the given

62:Can a DFA simulate NFA?

Yes

No

Sometimes

Depend upon nfa

63: _____ phase which supports macro substitution and conditional compilation.

Syntax

Semantic

Preprocessing

None

64:In multi pass compiler during the first pass it gathers information about _____ .

Declarations

Bindings

Static information

None

65:Parser takes tokens from scanner and tries to generate_____ .

Select correct option:

Binary Search tree

Parse tree

Syntax trace

None of the given

66: $S \rightarrow A \mid xb$

$A \rightarrow aAb \mid x$ This grammar contains a reduce-reduce conflict.

If a DFA states contains both $[X \rightarrow \alpha \bullet, a]$ and $[Y \rightarrow \beta \bullet, a]$, then on input “a” we don’t know which production to reduce with. This is called a *reduce-reduce conflict*. Usually due to gross ambiguity in the grammar.

True

False

67: goto L statement represent

68: What does following statement represent? $x[i] = y$

69: Three-address codes are often implemented as a _____.

70: The error handling mechanism of the yacc parser generator pushes the input stream back when inserting ‘missing’ tokens.



True



False

71: What does the following statement represent? goto L

- ☒ Unconditional jump
- ☐ Copy statement
- ☐ Conditional jump
- ☐ None of the given

72: Following statement represents: if x relop y goto L

- ☐ abstract jump
- ☒ Conditional jump
- ☐ While loop
- ☐ None of the Given

73: $S \rightarrow A \mid x b A \rightarrow a A b \mid x$ This grammar contains a reduce-reduce conflict

- ☒ True



False

Navigation controls: left arrow, right arrow, up arrow, down arrow.