Final Term MCQ's and Quizzes
CS606- compiler instruction

Question No: 1 (Marks: 1) - Please choose one

If X is a terminal in A--> aX•?, then this transition corresponds to a shift of ____ from input to top of parse stack.

X
A
a
None of the given

Question No: 1 (Marks: 1) - Please choose one

A canonical collection of sets of items for an augmented grammar, C is constructed as -----

The first set in C is the closure of {[S' --> .S]}, where S is starting symbol of original grammar and S' is the starting non-terminal of augmented grammar.

The first set in C is the closure of {[S' --> .S]}, where S is starting symbol of original grammar and S' is the starting non-terminal of original grammar.

The first set in C is the closure of {[S' --> .S]}, where S is starting symbol of original grammar and S is the starting non-terminal of augmented grammar.

None of these

Question No: 1 (Marks: 1) - Please choose one

An ----- does not need to examin 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 given

Question No: 1   (Marks: 1)   - Please choose one

Suppose ? begins with symbol X which may be a terminal (token) or non-terminal. The item can be written as A? Xa•?.

True

False

Question No: 1   (Marks: 1)   - Please choose one

YACC parser generator builds up

SLR parsing table

Canonical LR parsing table

LALR parsing table

None of the given

Question No: 1   (Marks: 1)   - Please choose one

LR(1) parsing is --- base parsing.

DFA

CFG

PDA

None of the given

Question No: 1   (Marks: 1)   - Please choose one

The LR(1) parsers can not recognize precisely those languages in which one-symbol lookahead suffices to determine whether to shift or reduce.

True

False

Question No: 1   (Marks: 1)   - Please choose one

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

Reduce action

Shift and reduce actions

De-allocation of memory

Question No: 1 (Marks: 1) - Please choose one

S --> A | xb A --> aAb | x This grammar contains a reduce-reduce conflict.

True

False

Question No: 1 (Marks: 1) - Please choose one

S --> a | B

B --> Bb | E The non-terminal _______ is left recursive.

B

a

E

None of the given

Question No: 1 (Marks: 1) - Please choose one

Following statement represents: if x relop y goto L

abstract jump

Conditional jump

While loop

None of the Given

Question No: 1 (Marks: 1) - Please choose one

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

Character

Grammar

Token

Sentence

Question No: 1 (Marks: 1) - Please choose one

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

True

False

Question No: 1 (Marks: 1) - Please choose one

Register allocation by graph coloring uses a register interference graph. __________ nodes in the graph are joined by an edge when the live ranges of the values they represent overlap.

Two p116

Three

Four

Five

Question No: 1 (Marks: 1) - Please choose one

S --> A B A --> e | aA B --> e | bB - FIRST(S) contains ___ elements.

3

4

5

6

Question No: 1 (Marks: 1) - Please choose one

The notation ________ instructs YACC to push a computed attribute value on the stack.

$$ Page no : 98

&&

##

--

Question No: 1 (Marks: 1) - Please choose one

Simple code generation considers one AST node at a time. If the target is a register machine, the code can be generated in one ______ traversal of the AST, possibly introducing temporaries when running out of registers.

Depth-first

Breadth-first

Top-Down

Bottom-Up

Question No: 1 (Marks: 1) - Please choose one

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

Question No: 1 (Marks: 1) - Please choose one

In an attribute grammar each production rule(N--> a) has a corresponding attribute evaluation rule that describes how to compute the values of the _______attributes of each particular node N in the AST.

Synthesized page no : 92
Complete
Free
Bounded

Question No: 1 (Marks: 1) - Please choose one

When constructing an LR(1) parser we record for each item exactly in which context it appears, which resolves many conflicts present in _______parsers based on FOLLOW sets.

SLR(1)
LRS(1)
RLS(1)
None of the given

Question No: 1 (Marks: 1) - Please choose one

The ______translation statements can be conveniently specified in YACC

Syntax-directed Page no : 120
Image-directed
Sign-directed
None of the given.

Question No: 1 (Marks: 1) - Please choose one

Backpatching to translate flow-of-control statements in ____ pass.

one
two
three
all of the given

Question No: 1 (Marks: 1) - Please choose one

Alternative of the backtrack in parser is Look ahead symbol in _________ .

Input
Output
Input and Output
None of the given

Question No: 1 (Marks: 1) - Please choose one

Typical compilation means programs written in high-level languages to low-level ____________.

Object code
Byted code
Unicode
Both Object Code and byte code

Question No: 1 (Marks: 1) - Please choose one

In PASCAL ___________ represent the inequality test.

:
:=
=
<>
None of the given

Question No: 1 (Marks: 1) - Please choose one

LR parsing ______________ a string to the start symbol by inverting productions.

Reduces
Shifts
Adds
None of the given

Question No: 1 (Marks: 1) - Please choose one
In multi pass compiler during the first pass it gathers information about __________________ .

Declaration
Bindings
Static information
None of the given

Question No: 1 (Marks: 1) - Please choose one
___________________ phase which supports macro substitution and conditional compilation.

Semantic
Syntax
Preprocessing
None of given

Question No: 1 (Marks: 1) - Please choose one
In parser the two LL stand(s) for _____________ .

Left-to-right scan of input
left-most derivation
All of the given
None of the given

Question No: 1 (Marks: 1) - Please choose one
Parser always gives a tree like structure as output

True
False

Question No: 1 (Marks: 1) - Please choose one
Lexer and scanner are two different phases of compiler

True
False

Question No: 1 (Marks: 1) - Please choose one
_____________tree in which each node represents an operator and children of the node represent the operands.

Abstract syntax **Page no : 100**
Concrete syntax
Parse
None of the given

Question No: 1 (Marks: 1) - Please choose one
In compilation process Hierarchical analysis is also called

Parsing
Syntax analysis
Both Parsing and Syntax analysis
None of given

Question No: 1 (Marks: 1) - Please choose one
Ambiguity can easily be handled by Top-down Parser
Select correct option:

True
False

Question No: 1 (Marks: 1) - Please choose one
Front-end of a two pass compiler is consists of Scanner.

True
False

Question No: 1 (Marks: 1) - Please choose one
LL(1) parsing is called non-predictive parsing.

True
False

Question No: 1 (Marks: 1) - Please choose one
In predictive parsing table the rows are ______________________ .

Non-terminals
Terminals
Both non-terminal and terminals
None of the given

Question No: 1 (Marks: 1) - Please choose one
In LL1() parsing algorithm __________ contains a sequence of grammar symbols.

Stack
Link list
Array
None

Question No: 1 (Marks: 1) - Please choose one
Consider the grammar
A --> B C D
B --> h B | epsilon
C --> C g | g | C h | i
D --> A B | epsilon
First of C is ________________ .
Select correct option:

g, I look down for reference
g
h i
i

Question No: 1 (Marks: 1) - Please choose one
AST summarizes the grammatical structure with the details of derivations.

True
False

Question No: 1 (Marks: 1) - Please choose one
Left factoring is enough to make LL1 grammar

True
False

Question No: 1 (Marks: 1) - Please choose one
f X is a non-terminal in A? aX•?, then the interpretation of this transition is more complex because non-terminals do not appear in input

Yes
No

Question No: 1 (Marks: 1) - Please choose one
If / is a set of items for a grammar then closure (/) is a set of items constructed from / by the following rule.

If A --> aX.Y is in closure (/) and Y --> r is production, then add X --> .r to closure (/).
If A --> a.XY is in closure (/) and X --> r is production, then add X --> .r to closure (/).
If A --> aXY. is in closure (/) and A --> r is production, then add X --> .r to closure (/).
None of these

Question No: 1 (Marks: 1) - Please choose one
NFA of LR(0) items means ______

look-ahead one sybole
no look-ahead
look-ahead all sybols
None of the given

Question No: 1 (Marks: 1) - Please choose one
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
None of the given.

Question No: 1 (Marks: 1) - Please choose one
The output from the algorithm of constructing the collection of canonical sets of LR(1) items will be the ______

Original Grammar G
Augmented grammar G'
Parsing table
None of the given

Question No: 1 (Marks: 1) - Please choose one
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

Question No: 1 (Marks: 1) - Please choose one
NFA of LR(1) items means ______

no look-ahead
look-ahead one sybole
look-ahead all sybols
None of the given

Question No: 1 (Marks: 1) - Please choose one

In canonical collection procedure a DFA can not be constructed from NFA using the subset construction, similar to one we used for lexical analysis.

True
False

Question No: 1 (Marks: 1) - Please choose one

performing common subexpression elimination on aa dependncy graph requires the identification of nodes with the same operator and operands.when using a hash table (with a hash function based on operator and operands) all________ nodes can be identified in linear time.

common
uncommon
next
previous

Question No: 1 (Marks: 1) - Please choose one

Linear IRs resemble pseudo-code for same ___________.

Automated Machine
Mechanical machines
Token machines
Abstract machine

Question No: 1 (Marks: 1) - Please choose one
The regular expressions a*|b* and (a|b)* describe the _____set of strings.

Same
Different
Onto

Question No: 1 (Marks: 1) - Please choose one
Back patching to translate flow-of-control statements in ____ pass.

one Page no : 111
two
three
all of the given

Question No: 1 (Marks: 1) - Please choose one
Consider the following grammar, S --> aTUe T --> Tbc/b U --> d And suppose that string “abbcde” can be parsed bottom-up by the following reduction steps: (i) aTbcde (ii) aTde (iii) aTUe (iv) S So what can be a handle from the following?

The second (b) in (abbcde)
The first (b) in (abbcde)
The substring (cd) in (abbcde)
None of the given

Question No: 1 (Marks: 1) - Please choose one
Yacc contains built-in support for handling ambiguous grammars resulting in _______ conflicts.

Shift-reduce
Shift-Shift
Shift-second
None of the given

Question No: 1 (Marks: 1) - Please choose one
A lexical analyzer generator automatically constructs a _____ that recognizes tokens.
:
FA
PDA
DP
None of the given

Question No: 1 (Marks: 1) - Please choose one
Attributes whose values are defined in terms of a node's own attributes, node's siblings and node's parent are called __________ .

Inherited attributes Page no : 92
Physical attributes
Logical attributes
Un-synthesized attributes

Question No: 1 (Marks: 1) - Please choose one
The following two items A -> P • Q B -> P • Q can co-exist in an ______ item set.

LR
LS
LT
PR

Question No: 1 (Marks: 1) - Please choose one
Three-address codes are often implemented as a ________.

Set of quadruples Page no : 104
Set of doubles
Set of Singles
None of the given

Question No: 1 (Marks: 1) - Please choose one
The error handling mechanism of the yacc parser generator pushes the input stream back when inserting 'missing' tokens.

True
False

Question No: 1 (Marks: 1) - Please choose one
Flow of values used to calculate synthesized attributes in the parse tree is:

Bottom-up Page no: 92
Right to left
Top-Down
Left to right

Question No: 1 (Marks: 1) - Please choose one
What does following statement represent? x[i] = y

Prefix assignment
Postfix assignment
indexed assignment Page no : 107
None of the given

Question No: 1 (Marks: 1) - Please choose one
A lexical analyzer transforms a stream of tokens. The tokens are stored into symbol table for further processing by the parser.

True Page no: 99
False

Question No: 1 (Marks: 1) - Please choose one
LR parsers can handle _________________ grammars.

Left-recursive Page no: 163
file-recursive
End-recursive
Start-recursive

Question No: 1 (Marks: 1) - Please choose one
_____ convert the reloadable machine code into absolute machine code by linking library and reloadable object files.

Assembler
Loader/link-editor
Compiler
Preprocessor

Question No: 1 (Marks: 1) - Please choose one
Consider the following grammar,
A --> B C D
B --> h B | episilon
C --> C g | g | C h | i
D --> A B | episilon

First of A is ________________ .
h, g, i
gh
None of the given

Question No: 1 (Marks: 1) - Please choose one
One of the core tasks of compiler is to generate fast and compact executable code.

True
False

Question No: 1 (Marks: 1) - Please choose one
Compilers are sometimes classified as.

Single pass
Multi pass
Load and go
All of the given

Question No: 1 (Marks: 1) - Please choose one
In multi pass compiler during the first pass it gathers information about ____________________ .

Declaration
Bindings
Static information
None of the given **

Question No: 1 (Marks: 1) - Please choose one
For each language to make LL(1) grammar, we take two steps, 1st is removing left recurrence and 2nd is applying fin sequence.

True
False

Question No: 1 (Marks: 1) - Please choose one
______________is evaluated to yield a value.

Command
Expression
Declaration
Declaration and Command

Question No: 1 (Marks: 1) - Please choose one
We can get an LL(1) grammar by _________________ .
Removing left recurrence
Applying left factoring
Removing left recurrence and Applying left factoring
None of the given

Question No: 1 (Marks: 1) - Please choose one
Can a DFA simulate NFA?

Yes
No
Sometimes
Depend upon nfa

Question No: 1 (Marks: 1) - Please choose one
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

Question No: 1 (Marks: 1) - Please choose one
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} not sure

Question No: 1 (Marks: 1) - Please choose one
Functions of Lexical analyzer are?

Removing white space
Removing constants, identifiers and keywords
Removing comments
All of the given

Question No: 1 (Marks: 1) - Please choose one
Consider the following grammar, S --> aTUe T --> Tbc/b U --> d And suppose that string “abbcde” can be parsed bottom-up by the following reduction steps: (i) aTbcde (ii) aTde (iii) aTUe (iv) S So, what can be a handle from the following?

The whole string, (aTUe) Page no : 68
The whole string, (aTbcde)
The whole string, (aTde)
None of the given

Question No: 1 (Marks: 1) - Please choose one
The LR(1) items are used as the states of a finite automaton (FA) that maintains information about the parsing stack and progress of a shift-reduce parser.

True Page no: 74
False

Question No: 1 (Marks: 1) - Please choose one
Flex is an automated tool that is used to get the minimized DFA (scanner).

True
False Page no: 26

Question No: 1 (Marks: 1) - Please choose one
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.

Epsilon
#
$ Page no : 65
None of the given

Question No: 1 (Marks: 1) - Please choose one
When generating a lexical analyzer from a token description, the item sets (states) are constructed by two types of "moves": character moves and ____ moves.

E (empty string) Page no : 18
#
@
none of given

Question No: 1 (Marks: 1) - Please choose one
Bottom-up parsers handle a __________________ class of grammars.

large Page no : 63
small
medium
none of the given

Question No: 1 (Marks: 1) - Please choose one

Let a grammar G = (Vn, Vt, P, S) is modified by adding a unit production S’--> S to the grammar and now starting non-terminals becomes S’ and grammar becomes G’ = (Vn U {S’}, Vt, PU{S’ --> S}, S’). The Grammar G’ is called the -----------

Augmented Grammar Page no : 76
Lesser Grammar
Anonymous Grammar
none of given

Question No: 1 (Marks: 1) - Please choose one

Parser takes tokens from scanner and tries to generate ________________ .

Binary Search tree
Parse tree
Syntax trace Page no : 6
None of the given

Question No: 1 (Marks: 1) - Please choose one

In Flex specification file different sections are separated by __________________ .

%% Page no: 26
&&
##
\\

Question No: 1 (Marks: 1) - Please choose one

Consider the grammar A --> B C D

B --> h B | epsilon
C --> C g | g | C h | i
D --> A B | epsilon

Follow of B is ______________ .

h
g, h, i, $
g, i
g

Question No: 1 (Marks: 1) - Please choose one

Consider the grammar A --> B C D
B --> h B | epsilon
C --> C g | g | C h | i
D --> A B | epsilon

Follow of C is ______________ .

g, h, i, $ Page no : 47
g, h, $
h, i, $
h, g, $

Question No: 1 (Marks: 1) - Please choose one

In DFA minimization we construct one ________________ for each group of states from the initial DFA.

State Page no : 25
NFA
PDA
None of given

Question No: 1 (Marks: 1) - Please choose one

An important component of semantic analysis is ___________________ .

code checking
type checking page no : 6
flush checking
None of the given

Question No: 1 (Marks: 1) - Please choose one

Intermediate Representation (IR) stores the value of its operand in ______________________ .

Registers Page no : 10
Memory
Hard disk
Secondary storage

Question No: 1 (Marks: 1) - Please choose one

In _____certain checks are performed to ensure that components of a program fit together meaningfully.
Linear analysis
Hierarchical analysis
Semantic analysis Page no : 33
None of given

Question No: 1   (Marks: 1)   - Please choose one
Which of the following statement is true about Two pass compiler.

Front End depends upon Back End
Back End depends upon Frond End   page no : 5
Both are independent of each other
None of the given

Question No: 1   (Marks: 1)   - Please choose one
_________________ algorithm is used in DFA minimization.

James's
Robert's
Hopcroft's   Page no : 19
None of given

Question No: 1   (Marks: 1)   - Please choose one
A _______ is a top down parser.
Predictive Parsing Page no: 46
Reactive parser
Proactive parser
None of the given

Question No: 1   (Marks: 1)   - Please choose one
Lexical Analyzer generator _________________ is written in Java.

Flex
Jlex Page no : 26
Complex
None of given

Question No: 1   (Marks: 1)   - Please choose one
_____________avoid hardware stalls and interlocks.

Register allocation
Instruction scheduling Page no : 10
Instruction selection
None of given

Question No: 1 (Marks: 1) - Please choose one
Recursive _____________ parsing is done for LL(1) grammar.

Decent Page no : 47
Ascent
Forward
Backward

Question No: 1 (Marks: 1) - Please choose one
Left factoring of a grammar is done to save the parser from back tracking.

True Page no:61
False

Question No: 1 (Marks: 1) - Please choose one
Responsibility of _______________ is to produce fast and compact code.

Instruction selection
Register allocation
Instruction scheduling
None of given Page no: 9

Question No: 1 (Marks: 1) - Please choose one
Optimal registers allocation is an NP-hard problem.

True
False Page no : 10

Question No: 1 (Marks: 1) - Please choose one
Front end of two pass compiler takes__________________ as input.

Source code Page no: 5
Intermediate Representation (IR)
Machine Code
None of the Given

Question No: 1 (Marks: 1) - Please choose one
In Three-pass compiler ______________ is used for code improvement or optimization.

Front End
Middle End Page no : 10
Back End
Both Front end and Back end

Question No: 1 (Marks: 1) - Please choose one
________________ of a two-pass compiler is consists of Instruction selection, Register allocation and Instruction scheduling.

Back end Page no : 9
Front end
Start
None of given

Question No: 1 (Marks: 1) - Please choose one
NFA is easy to implement as compared to DFA.

True
False Page no : 19

Question No: 1 (Marks: 1) - Please choose one
In Back End module of compiler, optimal register allocation uses_______________ .

O(log n)
O(n log n)
N P-Complete Page no : 10
None of the given

Question No: 1 (Marks: 1) - Please choose one
In a transition table cells of the table contain the ________ state.

Reject state
Next state Page no 18
Previous state
None of the given

Question No: 1 (Marks: 1) - Please choose one
Parser generator for the grammar LALR (1) is:
YACC, Bison, CUP Page no: 88

Question No: 1 (Marks: 1) - Please choose one
Attributes of a node whose values are defined wholly in terms of attributes of node's children and from constants are called ________.

Synthesized attributes Page no : 92

Question No: 1 (Marks: 1) - Please choose one
Goto L statement represent

Unconditional jump Page no : 107

Question No: 1 (Marks: 1) - Please choose one
Dotted items (T□a •b) record which part of a token has already been matched. Integer? ([0-9])+ • This is a _____ item.

Extended Page no : 73

Question No: 1 (Marks: 1) - Please choose one
If T --> XYZ is a production of grammar G then which of the following item indicates that a string derivable from X has been seen so far on the input and we hope to see a string derivable from YZ next on the input.

Question No: 1 (Marks: 1) - Please choose one
The most powerful parser is:

Question No: 1 (Marks: 1) - Please choose one
In the Parsing Table the rows correspond to Parsing DFA states and columns correspond to ----.