

# VIRTUAL UNIVERSITY OF PAKISTAN

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**TEAM HADI(VU LAHORE)**

## MID TERM PAST PAPER

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WARNING: Team HADI is not responsible for any mistake or wrong answer. All students reading and using this document may check and confirm the answers at their own.



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Best of luck!



Question No : 1 of 26

Marks: 1 (Budgeted Time 1 Min)

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

Answer ( Please select your correct option )

☐ Object code

☐ Byted code

☐ Unicode

☐ Object Code and byte code



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03228043306

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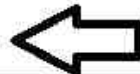
Question No : 2 of 26

Marks: 1 (Budgeted Time 1 Min)

In compilation process, Hierarchical analysis is also called \_\_\_\_\_.

Answer ( Please select your correct option )

- ☐ Parsing
- ☐ Syntax analysis
- ☒ Parsing and Syntax analysis
- ☐ None of given



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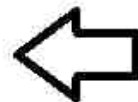
Question No : 3 of 26

Marks: 1 (Budgeted Time 1 Min)

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

Answer ( Please select your correct option )

☐ Registers



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☐ Memory

☐ Hard disk

☐ None Of given

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Question No : 4 of 26

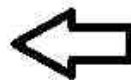
Marks: 1 (Budgeted Time 1 Min)

A lexeme is a sequence of characters in the source program that is matched by the pattern for a \_\_\_\_\_.

no any lexeme  
word available in  
book

Answer ( Please select your correct option )

- ☐ Linker
- ☐ Token
- ☐ Control flow
- ☐ None of given



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Question No : 5 of 26

Marks: 1 (Budgeted Time 1 Min)

Parsers take \_\_\_\_ as input from lexical analyzer.

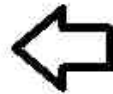
Answer ( Please select your correct option )

☐ Linker

☐ Token

☐ Instruction

☐ None of the given



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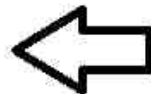
Question No : 6 of 26

Marks: 1 (Budgeted Time 1 Min)

What kind of abstract machine can recognize strings in a regular set?

Answer ( Please select your correct option )

☐ DFA



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☐ NFA

☐ PDA

☐ None of the given

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Question No : 7 of 26

Marks: 1 (Budgeted Time 1 Min)

In multi pass compiler, during the first pass it gathers information about \_\_\_\_\_.

Answer ( Please select your correct option )

☐ Declaration

☐ Bindings

☐ Static information

☐ None of the given



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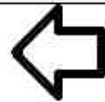
Question No : 8 of 26

Marks: 1 (Budgeted Time 1 Min)

In DFA minimization, we construct one \_\_\_\_\_ for each group of states from the initial DFA.

Answer ( Please select your correct option )

☐ State



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☐ NFA

☐ PDA

☐ None of given

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Question No : 9 of 26

Marks: 1 (Budgeted Time 1 Min)

\_\_\_\_\_ (Lexical Analyzer generator), is written in Java

page : 26 hanouts

Answer ( Please select your correct option )

- ☐ Flex
- ☐ Jlex
- ☐ Complex
- ☐ None of given



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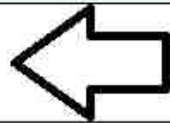
Question No : 10 of 26

Marks: 1 (Budgeted Time 1 Min)

In Flex specification file, different sections are separated by \_\_\_\_\_.

Answer ( Please select your correct option )

☐ %%



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☐ &&

☐ ##

☐ None of given

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Question No : 11 of 26

Marks: 1 (Budgeted Time 1 Min)

Recursive \_\_\_\_ parsing is done for LL(1) grammar.

Answer ( Please select your correct option )

☐ Decent



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☐ Ascent

☐ Forward

☐ None of the given

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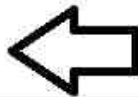
Question No : 12 of 26

Marks: 1 (Budgeted Time 1 Min)

Alternative of the backtrack in parser is Look ahead symbol in \_\_\_\_\_.

Answer ( Please select your correct option )

- ☐ Input
- ☐ Output
- ☐ Input and Output
- ☐ None of the given.



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Question No : 13 of 26

Marks: 1 (Budgeted Time 1 Min)

Parser takes tokens from scanner and tries to generate \_\_\_\_\_.

Answer ( Please select your correct option )

☐ Binary Search tree

☒ Parse tree.

☐ Binary Search tree and Parse tree.

☐ None of the given



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Question No : 14 of 26

Marks: 1 (Budgeted Time 1 Min)

In predictive parsing table, the rows represents \_\_\_\_\_.

Answer ( Please select your correct option )

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



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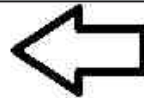
Question No : 15 of 26

Marks: 1 (Budgeted Time 1 Min)

In LL(1) parsing algorithm, \_\_\_\_ contains a sequence of grammar symbols.

Answer ( Please select your correct option )

☐ Stack



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☐ Link List

☐ Array

☐ None of the given.

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Question No : 16 of 26

Marks: 1 (Budgeted Time 1 Min)

Consider the grammar

$A \rightarrow B C D$

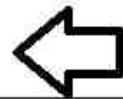
$B \rightarrow h B \mid \varepsilon$

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

First if A is

Answer ( Please select your correct option )

☐ h, g, i



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☐ g

☐ h

☐ None of the given.

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Question No : 17 of 26

Marks: 1 (Budgeted Time 1 Min)

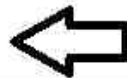
Consider the grammar

$$A \rightarrow B C D$$
$$B \rightarrow h B \mid \varepsilon$$
$$C \rightarrow C g \mid g \mid C h \mid i$$

if first of C is

Answer ( Please select your correct option )

☐ g, i



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☐ g

☐ h, i

☐ None of the given.

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Question No : 18 of 26

Marks: 1 (Budgeted Time 1 Min)

Bottom-up parsing uses only \_\_\_\_\_ kinds of actions.

Answer ( Please select your correct option )

☐ Two



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☐ Three

☐ Four

☐ Five

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Question No : 19 of 26

Marks: 1 (Budgeted Time 1 Min)

The shift action \_\_\_\_\_ a terminal on the stack.

Answer ( Please select your correct option )

☐ Pushes



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☐ Pops

☐ Both push and pops

☐ None of the given

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Question No : 20 of 26

Marks: 1 (Budgeted Time 1 Min)

Reduce action \_\_\_\_\_ zero or more symbols from the stack

Answer ( Please select your correct option )

☐ Pushes

☒ Pops

☐ Both push and pops

☐ None of the given



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Question No : 21 of 26

Marks: 2 (Budgeted Time 4 Min)

Consider the following C++ function as an input to the Parser.

```
1. int* foo(int i, int j)
2. {
3.   for(k=0; i < j; k++)
4.     B(i > j)
```

Answer ( Please [click here to Add Answer](#) )



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Question No : 21 of 26

Marks: 2 (Budgeted Time 4 Min)

```
4. f(i > j)  
5. return j;  
6. }
```

What is the syntactic error at line 4? How will Parser recognize this syntactic error?

Answer ( Please [click here to Add Answer](#) )



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Question No : 22 of 26

Marks: 2 (Budgeted Time 4 Min)

What is upper frontier with respect to discovering handles in shift-reduce parsing?

Answer ( Please [click here](#) to Add Answer )



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Question No : 23 of 26

Marks: 3 (Budgeted Time 6 Min)

Consider the following C++ function as an input to the Parser.

```
int* foo(int i, int j)
{
for(k=0; i < j; j++)
if(i < j-2)
```

Answer ( Please [click here to Add Answer](#) )



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Question No : 23 of 26

Marks: 3 (Budgeted Time 6 Min)

```
if(i < j-2)
sum = sum+i
return sum;
}
```

What will be the semantic errors reported by the Parser in the above code?

Answer ( Please [click here to Add Answer](#) )



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Question No : 24 of 26

Marks: 3 (Budgeted Time 6 Min)

Considering the following grammar, calculate the first set of non-terminals S, A and B.

$$S \rightarrow AB$$
$$A \rightarrow a \mid \varepsilon$$
$$B \rightarrow b \mid \varepsilon$$

Answer ( Please [click here to Add Answer](#) )



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Question No : 25 of 26

Marks: 5 (Budgeted Time 10 Min)

Consider the following grammar,

Statement  $\rightarrow$  if expression then statement else statement

Statement  $\rightarrow$  if expression then statement

You are required to provide an alternate production(s) so that it may become free from the backtracking.

Answer ( Please [click here to Add Answer](#) )



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Question No : 26 of 26

Marks: 5 (Budgeted Time 10 Min)

Considering the following grammar, reduce the string "abbcbcd" using Bottom-up parsing

$S \rightarrow aABe$   
 $A \rightarrow Abc \mid b$   
 $B \rightarrow d$

Answer ( Please [click here](#) to Add Answer )



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