CD Lab Test

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Questions

1 point

Consider the below given statements:

S1: The grammar S→SS+/* is ambiguous. (S is start symbol).

S2: The grammar S→pSq/ pqS/ϵ is unambiguous (S is start symbol)

Choose the correct option:

- S1 is true and S2 is false
- S1 is false and S2 is true
- Both S1 and S2 are true
- Both S1 and S2 are false.

1 point

Let G1 and G2 be two CFG over ∑={0,1}, such that

G1: S → 0A1 | AA |ϵ and A →S

G2: S→0A1A | 0A1 | 01A and A→S | ϵ

Consider the given below statements:

S1: Both G1 and G2 derive the same language.

S2: G1 is unambiguous while G2 is ambiguous

S3: G1 is CLR(1) and G2 is not LL(1)

Select the correct option:

- All S1, S2 and S3 are true statements.
- S1 is true while S2 and S3 are false.
- S1 and S3 are true while S2 is false.
- All S1, S2 and S3 are false statements.

1 point

Consider the given first and follow set of a grammar G, where set of non-terminal contain {S, A, B} and set of terminal contain {+, * , # }

	FIRST	FOLLOW
S	#, *	S
A	#, * , ϵ	S, #, *, +
B	#	S, #, *, +

Choose the correct grammar G from the given options.

Grammar G_1

S→ ABA

A→ B+ / *A / ϵ

B→ #A

Option 1

Grammar G_2

S→ ABA

A→ B+ / *A / ϵ

B→ #A / ϵ

Option 2

Grammar G_3

S→ A*B / A+B /ABA

A→ B+ / *A / ϵ

B→ #A

Option 3

None of the above

1 point

Consider the following quadruples

	op	arg1	arg2	result
0	+	b	c	t1
1	minus	t1		t2
2	=	a	t2	t3

Select the correct arithmetic expression with reference to the given quadruple

- a= - b+c
- a=-(b+c)
- a=+b+c
- a=-c+b

1 point

Consider the following grammar, where set of terminals are {a,d,t, h} and non-terminals are{S,A,B}.

S→BaAB

A→SdB | Bt

B→ dSA | h | ϵ

Select the correct option.

- Follow(A) = {d, h, a, t, $ }
- First(A) = {ϵ, d, h, t}
- Follow(S)= {d, h, t, $ }
- First(S)={ϵ, d, h }

1 point

Consider the following productions.

S→ Pt

P→ LM

L→ x | ϵ

M→ y | ϵ

Select the correct option.

- Follow(L) =Follow(P)
- Follow(M) =Follow(P)
- Follow(S) =Follow(M)
- FIRST(P)=FIRST(M)

1 point

Consider the below given statements.

Statement I: If a grammar G is LL(1), then it must be SLR(1).

Statement II: If a grammar G is LL(1) then it must be LALR(1), but may not be SLR(1).

Statement III: For a grammar G the SLR(1) and LALR(1) parsing tables must have same GOTO part.

Statement IV: For a grammar G the SLR(1) and LALR(1) parsing tables must have identical shift entries.

Which of the following option is correct?

- Statement I & IV are true only.
- Statement II & III are true only.
- Statement III & IV are true only.
- Statement I, III &IV are true only.

1 point

Consider the grammar whose productions are given below.

S→S#id / S&id/ id

For a string "id#id&id", the handles in right sentential form of the reduction are:

- id, S#id, S#id&id
- id, S#id, S#S&id
- id, id#id, id#id&id
- id, S#id, S&id

1 point

Consider the given below grammar.

S→ PPb

P→Pb | b

Select the correct option:

- The grammar is LL(1) as well as SLR(1)
- The grammar is CLR(1) but not LL(1)
- The grammar is CLR(1) but not LALR(1)
- None of the above

1 point

Consider the following grammar G

S→ SaS | b

The total number of parse tree for string "bababab" are _____

Your answer

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