一、Single Choice (12 cents)

1、 which of the following language is generated by the context free grammar G: S→xSx | y

[A] xyx [B] (xyx)* [C] $x^n y x^n$ (n>=0) [D] x*yx*

2、 If the context-free grammar G is not ambiguous, for any sentence generated by G，which of the following description is correct? _____

[A] the parse tree corresponding to the left-most derivation must be the same to that of the right-most derivation.

[B] the parse tree corresponding to the left-most derivation may not be the same to that of the right-most derivation.

[C] the left-most derivation must be the same to the right-most derivation.

[D] there will be more than one left-most derivation, but the parse tree is the same.

3、If one CFG grammar is LL(1) and contains the rules: $A\rightarrow\alpha_1|\alpha_2$; $B\rightarrow\beta_1|\beta_2$, then the following condition ( ) must be satisfied.

[A] First (A) ∩First (B) is empty [C] First (A) ∩Follow (A) is empty

[B] First(α_1) ∩First(α_2) is empty [D] First (B) ∩Follow (A) is empty

4、LR(1) item [A → α . B γ , a], follow(B)= { }.

[A] a [B] γ [C] { γ , a } [D] { γa }

5、the parsing method of YACC is ( )

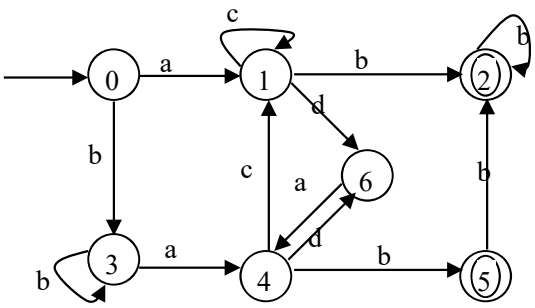
[A] LALR(1) [B]LR(1) [C] SLR(1) [D] LL(1)

6、In the Bottom-Up Parsing, the action ( ) will never be used.

[A] Reduce [B] Match [C] Shift [D] Accept

二、question (48 cents)

1、Apply the state minimization algorithm to the following DFA. Then give a regular expression to describe this language. (10 cents)



2. Show that the following grammar is ambiguous.(8 cents)

G: S→S R S | e

R→< | >

2. Consider the following grammar (30 cents)

P → A | L

L → (S)

S→ S P| P

A → n|i

(1) Remove the left recursion

(2) Construct First and Follow sets from the non-terminals of the resulting grammar

(3) Construct the LL(1) parsing table for the resulting grammar.

(4) Show the actions of the corresponding LL(1) parser, given the input string (i (i (n))(i))