CSE-331

Assignment-2

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sec: 06

Ans: to: Que: no: 1

1] Ans: S → 00A | 11B | ε

A → 11B | ε

B → 00A | ε

2] Ans: S → 0A1 | 1A0

A → 0A | 1A1 | ε

3] Ans: S → ABOA | A

A → 1A | ε

B → 0CB | ε

C → 11C | ε

4] Ans: S → A | B | C | D

A → 0C 1D 0C A | ε

B → 1D 0C 1D B | ε

C → 0C | ε

D → 1D | ε

5] $S \rightarrow AB$

  $A \rightarrow BBA \mid G$

  $B \rightarrow 011$

6] $S \rightarrow AB$

  $A \rightarrow 1A \mid G$

  $B \rightarrow 0111 AB \mid G$

Ans: to: que: no: 2

For L1,

  $S \rightarrow 00S11 \mid 01$

For L2,

  $S' \rightarrow 000S'.111 \mid G$

For $L_1 \cup L_2$,

~~$S \rightarrow 00 \ 11 \ 01$~~

$S \rightarrow A \mid B$

$A \rightarrow 00A \ 11 \mid 01$

$B \rightarrow 000 \ B \ 111 \mid \varepsilon$

Ans: to the que: 3

$S \rightarrow A \mid B$

$A \rightarrow CD$

$C \rightarrow 0C1 \mid \varepsilon$

$D \rightarrow 2D \mid \varepsilon$

$B \rightarrow EF$

$E \rightarrow 0E \mid \varepsilon$

$F \rightarrow X \mid Y$

$X \rightarrow 1X2 \mid X'$

$X' \rightarrow 1X' \mid 1$

$Y \rightarrow 1Y2 \mid Y'$

$Y' \rightarrow Y'2 \mid 2$

Ans: to: que: no: 4

$S \rightarrow A \mid B$

$A \rightarrow CD$

$D \rightarrow 2D \mid 6$

$C \rightarrow 0C1 \mid C'$

$C' \rightarrow 0C'1 \mid 0$

$B \rightarrow XY$

$X \rightarrow 0X1 \mid 6$

$Y \rightarrow 1Y2 \mid Y'$

$Y' \rightarrow 2Y'12$

Ans: to: que: no: 5

a) Ans: $S \rightarrow AOAOA$

$A \rightarrow BA1G$

$B \rightarrow 0 \mid 1$

b) Ans:

~~X → 000 X~~

$S → 000 S 11 | X$

$X → A0A0A$

$A → BA | \epsilon$

$B → 011$