



Inspiring Excellence

Name : Khandakar Md.Ragib Ahsan, Suvo Datta, Md.Tasnim Muttaki
ID : 22301202, 21101214, 21101216
Subject : Automata And Computability
Course code : CSE331
Section : 18

Q1

S → A B

S → α A b | A B | e

Q → C X R

C → C e | e

X → X | e

R → P P R | t

b l v S → A B

A → O E L

Q → O O l e

E → I E l E

B → C

C → Q C l 2

PL S → MSO / MT1 ω: " {S, 1, 0} S (

$T \rightarrow MTO / MW_1$
 $\zeta \rightarrow MZO / \#$

g1 $\rightarrow \rho_1/\epsilon$

P1 → OP20 / |P2|

P2 → OP30/1P31

$$P_3 \rightarrow OP\theta / |P| / e$$

$L_2 \rightarrow S \# S$

$\exists S \rightarrow T \otimes K$

$T \rightarrow I\pi / 2\pi / 1 / III / e$

→ 2122/222J/2222J/6

$k \rightarrow l/u/u+l/g$

b) $L = \{w \in \{0, 1, 2\}^*: w = 0^i 2^j 1^k \text{ for } i, j, k \geq 0\}$

⑩ $a_i = 3k$, j is odd and $i, j, k \geq 0$

$S \rightarrow 000S1/A$

$A \rightarrow 22A/2$

⑪ $S \rightarrow AB$

$A \rightarrow S A 22/22$

$B \rightarrow 222B M/11$

⑫ $S \rightarrow 0S/2S/A$

$A \rightarrow 0A/2A/10$

$B \rightarrow 10/18$

c) $S \rightarrow 00S/01S/10S/11S/011$

d) $S \rightarrow 0S/11S/011/18$

10

