

### Assignment - 3

1. HH: mm: ss,  $\Sigma = \{0-9, : \}$

$$\begin{aligned} & (0 \cdot (1+2+3+4+5+6+7+8+9) + 1 \cdot (0+1+2)) \cdot \dots \\ & (0+1+2+3+4+5) \cdot (0+1+2+3+4+5+6+7+8+9) \cdot \dots \\ & (0+1+2+3+4+5) \cdot (0+1+2+3+4+5+6+7+8+9) \end{aligned}$$

$$\begin{aligned} & \{ (0 \cdot [1-9] + 1 [0-2]) (: ) (0-5) (0-9) (: ) \\ & \quad (0-5) (0-9) \} \end{aligned}$$

2.  $[a-zA-Z0-9 \_ \cdot / - ! = | \# | ? | \backslash ] \{ 4, 20 \} [a-z0-9] \{ 3, 10 \}$   
 $[a-z] \{ 2, 5 \}$

3.

$$S \rightarrow \underline{0S0} / 1S1 / \epsilon$$

4.

$$(a(bblcc)b)^* a$$

$$S \rightarrow abbbs / accbS$$

$$A \rightarrow \underline{Sa}$$