

Nama : Tarisa Dwi Septia

NIM : 205410126

UTS

1. Diketahui:

W = bahagia

V = hidup

U = oke

a.  $U^R V W$

Jawab :

$$U^R = (ko)^R e$$

$$= (o)^R ek$$

$$= o.ek$$

$$= eko$$

$$U^R V W = ekohidupbahagia$$

b. Prefik(VU)

Jawab :

$$VU = \text{hidupoke}$$

$$\text{Prefik}(VU) = \{\varepsilon, h, hi, hid, hidu, hidup, hidupo, hidupok, hiduopoke\}$$

c.  $(W|V)U$

Jawab :

$$(W|V)U = WU \mid VU$$

$$= \text{bahagiahidup} \mid \text{hidupbahagia}$$

d.  $V^+$

Jawab :

$$V^+ = (\text{hidup, hiduphidup, hiduphiduphidup, hiduphiduphiduphidup, hiduphiduphiduphiduphidup, ...})$$

e.  $|VU|$

Jawab :

$$|VU| = \{\text{hidupoke}\}$$

$$= \{1\}$$

2. Diketahui :

$$A = \{ha, hi, \varepsilon\}$$

$$B = \{?, !, \varepsilon\}$$

a. A.B

Jawab :

$$A.B = (ha, hi, \varepsilon)(?, !, \varepsilon)$$

$$= \{ha?, ha!, ha\varepsilon, hi?, hi!, hi\varepsilon, \varepsilon?, \varepsilon!, \varepsilon\varepsilon\}$$

b.  $B - A$

Jawab :

$$\begin{aligned} B - A &= \{?, !, \varepsilon\} - \{ha, hi, \varepsilon\} \\ &= \{\varepsilon\} \end{aligned}$$

c.  $(A \cup B) - B$

Jawab :

$$\begin{aligned} (A \cup B) &= \{ha, hi, \varepsilon, ?, !, \varepsilon\} \\ (A \cup B) - B &= \{ha, hi, \varepsilon, ?, !, \varepsilon\} - \{?, !, \varepsilon\} \\ &= \{3\} \end{aligned}$$

d.  $(A - B)B$

Jawab :

$$\begin{aligned} (A - B) &= \{\varepsilon\} \\ (A - B)B &= \{\varepsilon\}\{?, !, \varepsilon\} \\ &= \{\varepsilon?, \varepsilon!, \varepsilon\varepsilon\} \end{aligned}$$

e.  $(A \cap B)A$

Jawab :

$$\begin{aligned} (A \cap B) &= (\varepsilon) \\ (A \cap B)A &= (\varepsilon)(ha, hi, \varepsilon) \\ &= (\varepsilon ha, \varepsilon hi, \varepsilon\varepsilon) \end{aligned}$$