

5

(a) Language of $(0^*10^+)^+$

= (010, 0010, 00010, 000010, ...)

= Example of a string in the language

is 000010

(b) Example of a string not in the language

 $\rightarrow \epsilon$ $\rightarrow 001010$

(c) Regular Expression that accepts the language of all binary strings with exactly one occurrence of aa.

$$(b^*ab^+)^*aa(b^+ab^*)^*$$