1a.

$T: \{a, b, c, \in\}$
$V: \{S\}$
$S: Start\ variable$
$\rightarrow S => Y_1 | Y_2$
$P: Y_1 = X_1 c \mid BC$
$X_1 = aX_1 c \mid BC$
$Y_2 = aX_2 \mid AB$
$X_2 = aX_1 c \mid AB$

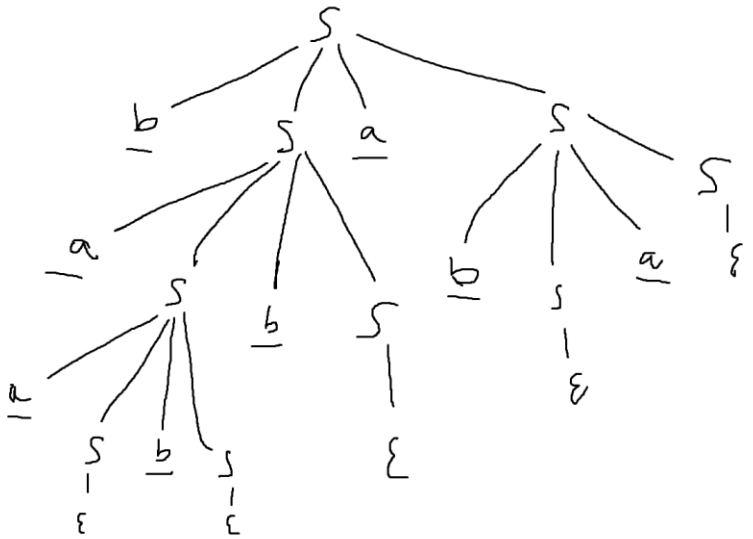
1b.

$T: \{a, b, \in\}$
$V: \{S\}$
$S: Start\ variable$
$\rightarrow S => aSb \mid aSa \mid bSa \mid bSb \mid \in$

1c.

$T: \{0, 1, \in\}$
$V: \{S\}$
$S: Start\ variable$
$P: \rightarrow S => 0X1 \mid 1X0 \mid 0S0 \mid 1S1$
$X => 0X \mid 1X \mid \in$

2.



3a. A string that has an odd amount of “A’s”

3b. The language must contain a ‘b’ to terminate

4a.

$$\rightarrow S => aSu \mid uSa \mid cSg \mid gSc \mid X$$
$$X => a \mid u \mid c \mid g \mid \in \mid XX$$

4b. Yes there is ambiguity.