ECE 205 - WS5

Name: **UIN:**

1. Simplify the following Boolean expressions

   (a) $\mathbf{f} = (\overline{\mathbf{A}} + \mathbf{B})\ .\ (\overline{\mathbf{A}}\ .\ (\mathbf{B} + \mathbf{A}))$

   (b) $\mathbf{f} = \overline{\mathbf{A}}\ .\ \overline{\mathbf{B}}\ .\ \overline{\mathbf{C}} + \overline{\mathbf{A}}\ .\ \mathbf{B}\ .\ \overline{\mathbf{C}} + \mathbf{A}\ .\ \mathbf{B}\ .\ \overline{\mathbf{C}}$

   (c) $\mathbf{f} = \mathbf{A}\ .\ \mathbf{B} + \overline{\mathbf{A}}\ .\ \mathbf{C} + \mathbf{B}\ .\ \mathbf{C}$

(d) Sketch the RTL based circuit that implements the following logic functions:

i. $\mathbf{f = A \ . \ B \ . \ C}$

ii. $\mathbf{f = \overline{A \ . \ B + C}}$