AE410: Aerospace Structural Dynamics

Fall 2019, Final Project *

Name Student 1: RED ID Student 1:

Name Student 2: RED ID Student 2:

Name Student 3: RED ID Student 3:

Name Student 4: RED ID Student 4:

Name Student 5: RED ID Student 5:

Pledge

We have not obtained/used any help nor provided anyone such help in completing this exam.

Signed (student 1): Date:

Signed (student 2): Date:

Signed (student 3): Date:

Signed (student 4): Date:

Signed (student 5): Date:

Part # 1

Consider the **unswept** wing (defined here as **model # 1**) whose wing box structure is shown in Figure 1. In addition, consider the **swept** wing (defined here as **model # 2**) whose wing box structure is shown in Figure 2. Finally, consider the **swept** wing (defined here as **model # 3**) whose wing box structure is shown in Figure 3.

For all the models # 1, # 2, and # 3, the wing-box structure is symmetric. The top and bottom skins have a constant thickness of $2.5\,mm$. The wing structure has **three spars**, one each at the leading edge, center and trailing edge of the wing-box. The shear webs of the spars have a constant thickness along the

*Due Date: December 12th (5:00PM).