

Aerospace Structures Pre-Laboratory
Lab 6 Composite Laminate Design

Section 4 Group 2

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Question 1

(20 pts) Provide a concise account of composite materials: what they are in general and what type of composites are commonly used in aerostructures.

Question 2

(3 pts) What does the subscript 's' mean in the laminate code $[0, (45, -45)_2]_s$? (5 pts) How many plies in total this code indicates?

Question 3

(3 pts) For the fiber-reinforced composite focused in this lab, what type of material property they possess? (4 pts) How many independent elastic constants are required to describe this material property?

Question 4

(5 pts) In the theory learned in lecture notes, what kind of loads are considered/susceptible?

Question 5

(10 pts) What are the objectives of this lab? (5 pts) What is the single strain component of particular interest? (15 pts) What steps are involved in the design process?