Assignment 5

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.

1. Why do Pitzer propellers have low base drag even with high lift/basal angle?
   - Since Pitzer propellers have fewer blades.
   - Since Pitzer propellers reduce the exposed area to the engine.
   - Since Pitzer propellers rotate at lower RPM.
   - Since Pitzer propellers do not have sealed lower.

   Score: 0
   Correct Answer: Since Pitzer propellers have fewer blades.

2. Estimate the C_d at 60% stall for a low angle of attack flight, if the C_d(stall) = 0.1, Wing Reference Area = 100 sq ft and Stroke Area = 10 sq ft.

   Score: 0
   Correct Answer: C_d at 60% stall

3. Which of the following statements is/are FALSE about the effect of increase in wing aspect ratio?
   - It increases angle of attack at stall.
   - It reduces sonic boom (L/D).max.
   - It increases the wing weight.
   - It improves wing rigidity.

   Score: 0
   Correct Answer: It increases the wing weight.

4. What is the main drawback of T-tail/V-tail layout?
   - Robust manufacturability.
   - Larger area than conventional single vertical tail.
   - Difficult to maintain.
   - High structural weight.

   Score: 0
   Correct Answer: Difficult to maintain.

5. Which of the following are true for the 100 passenger transport aircraft?
   - T-tail with high lower.
   - Long fuselage & tail.
   - Turbine.
   - Canard.

   Score: 0
   Correct Answer: Long fuselage & tail.

6. Which is the following Boeing plant sites currently producing for a transonic passenger transport section to ensure low specific fuel consumption (SFC)?
   - Everett.
   - Miami.
   - Long Beach.
   - Singapore.

   Score: 0
   Correct Answer: Everett.

7. Match the following and the best suitable wing layout.

   Score: 0
   Correct Answer: Match the following.

8. Which of the following have the advantages of the T-tail control configuration?
   - Higher propeller efficiency and large propeller clearance.
   - Good air cooling for the engine.
   - Improved pitch/roll.
   - Reduced high-speed drag.

   Score: 0
   Correct Answer: Good air cooling for the engine.

9. Which of the following aircraft has the T-tail configuration?
   - Cessna 172.
   - Cessna 208B.
   - Embraer EMB-145.
   - Boeing 777.

   Score: 0
   Correct Answer: Cessna 208B.

10. Which of the following factors can drive the layout of an aircraft during conceptual design?
    - Functional Requirements.
    - Safety and Reliability.
    - Types of Propulsion system.
    - Economy and Production capability.

    Score: 0
    Correct Answer: Functional Requirements and Safety and Reliability.