Assignment 11

The due date for submitting this assignment has passed. Due on 2019-10-16, 23:59 IST. As per our records you have not submitted this assignment.

The following questions may have more than one correct answers. Read and analyse the question carefully before selecting the answer(s). Marks will be awarded only if all the correct answers are selected. No partial marks will be awarded.

1) The equivalent Jet SFC \((c_t)\) of a piston engine aircraft is directly proportional to:

- the forward speed \((V_\infty)\)
- the propeller efficiency \((\eta_p)\)
- the power SFC \((c)\)
- the propeller rpm

No, the answer is incorrect.
Score: 0
Accepted Answers:
- the forward speed \((V_\infty)\)
- the power SFC \((c)\)

2) To maximize the Range of a Propeller engine powered aircraft, one should:

- Fly at maximum L/D
- Minimize SFC \((c)\)
- Fly at a speed at which \(C_D0 = C_{DI}\)
- Minimize Empty Weight

No, the answer is incorrect.
Score: 0
Accepted Answers:
2) To maximize the Endurance of a Propeller engine powered aircraft, one should:

- Fly at maximum L/D
- Minimize TSFC \((c_t)\)
- Fly at a speed at which \(C_{DD} = C_{Di}\)
- Minimize Empty Weight

No, the answer is incorrect.
Score: 0
Accepted Answers:
- Fly at maximum L/D
- Minimize TSFC \((c_t)\)
- Fly at a speed at which \(C_{DD} = C_{Di}\)
- Minimize Empty Weight

3) To maximize the Endurance of a Propeller engine powered aircraft, one should:  

- Fly at maximum L/D
- Minimize TSFC \((c_t)\)
- Fly at a speed at which \(C_{DD} = C_{Di}\)
- Minimize Empty Weight

4) The presence of a steady Headwind during level flight results in:

- Reduction in Ground Speed \((V_G)\)
- Increase in Ground Speed \((V_G)\)
- Reduced Range of a propeller driven aircraft
- Reduced Range of a jet engine aircraft

No, the answer is incorrect.
Score: 0
Accepted Answers:
- Reduction in Ground Speed \((V_G)\)
- Reduced Range of a propeller driven aircraft
- Reduced Range of a jet engine aircraft

5) Range in Cruise-Climb of a jet engined aircraft is maximized when flown at a speed at which:

- \(C_L / C_D\) is maximum
- \(C_L^{0.5} / C_D\) is maximum
- \(C_L^{1.5} / C_D\) is maximum
- \(C_{DD} = 3kC_L^2\)

No, the answer is incorrect.
Score: 0
Accepted Answers:
- \(C_L / C_D\) is maximum

6) Take off ground run can be reduced by:

- operating from a lower altitude
- decreasing lift coefficient
- decreasing wing loading
- increasing wing loading

No, the answer is incorrect.
Score: 0
Accepted Answers:
- operating from a lower altitude
- decreasing wing loading

7) Which of the following statement(s) is/are TRUE?

- \(\psi_{0}\) 
- \(\psi_{1}\) 
- \(\psi_{2}\) 
- \(\psi_{3}\) 
- \(\psi_{4}\) 
- \(\psi_{5}\) 
- \(\psi_{6}\)
Lecture 61: Take-off
Performance of Flight: Part I
(unit? unit=77&lesson=82)

Lecture 62: Take-off
Performance of Flight: Part II
(unit? unit=77&lesson=83)

Lecture 63: Landing
Performance of Flight (unit?
unit=77&lesson=84)

Lecture 64: Tutorial on Range Payload
Diagram (unit? unit=77&lesson=85)

Lecture 65: Tutorial on Range and Endurance
(unit? unit=77&lesson=86)

Weekly Feedback (unit?
unit=77&lesson=125)

Quiz: Assignment 11 (assessment?
name=128)

Assignment 11 Solutions (unit?
unit=77&lesson=134)

Week 12

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- V₁ < Vₐ < V₉
- V₉ > Vₐ > V₁
- V₉ > V₆ > V₈
- V₉ > V₆ > V₈

No, the answer is incorrect.
Score: 0
Accepted Answers:
V₁ < V₉ < V₆
V₆ > V₈ > V₁
V₉ > V₆ > V₈
V₉ > V₆ > V₈

8) Landing distance can be reduced by:
- operating from a lower altitude
- decreasing lift coefficient
- decreasing wing loading
- increasing wing loading

No, the answer is incorrect.
Score: 0
Accepted Answers:
operating from a lower altitude
decreasing wing loading

9) Which of the following statement(s) is/are TRUE? (Note: δFlap = Flap Deflection)

- δFlap @ Landing ≤ δFlap @ Takeoff
- δFlap @ Landing ≥ δFlap @ Takeoff
- ℃₉ @ Landing ≥ ℃₉ @ Takeoff
- ℃₉ @ Landing ≤ ℃₉ @ Takeoff

No, the answer is incorrect.
Score: 0
Accepted Answers:
δFlap @ Landing ≥ δFlap @ Takeoff
℃₉ @ Landing ≥ ℃₉ @ Takeoff

10) The proposed GABRIEL Magnetic Levitation system for Take-off and Landing is expected to result in lower value(s) of:

- Aircraft gross weight
- Fuel consumption
- Airport noise affected area
- Emissions in the airport region

No, the answer is incorrect.
Score: 0
Accepted Answers:
Aircraft gross weight
Fuel consumption
Airport noise affected area
Emissions in the airport region