Status	Finished
Started	Thursday, 11 September 2025, 8:51 AM
Completed	Thursday, 11 September 2025, 8:51 AM
Duration	9 secs
Marks	0.00/45.00
Grade	**0.00** out of 100.00
Feedback	You must review all the course material and the end of chapter quick quizzes, for all the chapters covered, before you re-attempt this test.

Question 1

Not answered

Marked out of 1.00

Differential aileron deflection:

- equalises the drag of the right and left aileron.
- is required to achieve the required roll rate.
- increases the CLMAX.
- is required to keep the total lift constant when ailerons are deflected.

The correct answer is: equalises the drag of the right and left aileron.

Question 2

Not answered

Marked out of 1.00

What is "Deterrent Buffet"?

- It is normal on take-off when fully loaded.
- It is an indication to jet transport crews that higher alpha should be used with caution.
- It is considered to be the stall limit on jet transport aircraft.
- It is confirmation that the aircraft is in a full stall.

The correct answer is: It is considered to be the stall limit on jet transport aircraft.

Question 3

Not answered

Marked out of 1.00

The roll caused by asymmetric flap extension _____ controllable with aileron.

- is usually
- is often not
- is always

The correct answer is: is often not

Question 4

Not answered

Marked out of 1.00

To ensure a consistent, reliable and predictable rate of rotation on take-off:

- The THS angle of attack must be adjusted according to the aircraft's CG position.
- The THS angle of incidence must be set to zero.
- The THS elevator angle must be adjusted according to the aircraft's CG position.
- The THS angle of incidence must be adjusted according to the aircraft's CG position.

The correct answer is: The THS angle of incidence must be adjusted according to the aircraft's CG position.

Question 5

Not answered

Marked out of 1.00

During an normal spin recovery:

- the ailerons are held in the neutral position.
- the control stick is moved side ways, against the angle of bank.
- the control stick is pulled to the most aft position.
- the control stick is moved side ways, in the direction of the angle of bank.

The correct answer is: the ailerons are held in the neutral position.

Question 6

Not answered

Marked out of 1.00

The best L/D ratio occurs at _____. The shallowest glide is achieved by flying at the speed which equates to this value.

- VMD
- VREF

The correct answer is: VMD

Question 7

Not answered

Marked out of 1.00

Which of the following statements is most correct.

- The critical angle (alphaCRIT) is the highest achievable angle of attack before the wing stalls.
- The critical angle (alphaCRIT) is the angle of attack at which the wing stalls.
- The critical angle (alphaCRIT) is the lowest achievable speed before the wing stalls.
- Ignoring effects of compressibility, the critical angle (alphaCRIT) varies with TAS

The correct answer is: The critical angle (alphaCRIT) is the highest achievable angle of attack before the wing stalls.

Question 8

Not answered

Marked out of 1.00

The purpose of correctly setting the leading and trailing edge devices on the wing of an aeroplane during take-off, approach and landing is to:

- reduce stall speed, increase CLMAX with minimum increase in drag for take-off, but with a relatively high drag for approach and landing.
- reduce stall speed and drag during take-off and landing.
- reduce the take-off roll and increase the landing roll.
- increase stall speed and CLMAX during take-off, but reduce stall speed with a relatively high drag during approach and landing.

The correct answer is: reduce stall speed, increase CLMAX with minimum increase in drag for take-off, but with a relatively high drag for approach and landing.

Question 9

Not answered

Marked out of 1.00

The pilot of a light aeroplane is flying at a speed below the normal cruising speed, in a gentle turn to allow a passenger to look at something interesting on the ground. Which of the following might occur to warn the pilot that the aircraft is approaching the stall?
1. Heavy buffet of the elevator before approaching the stall,
2. Significant pitch-up of the nose immediately before the stall,
3. The audible stall warning sounds,
4. The controls become light and less effective close to but before the stall.

- 2 and 4
- 1 and 3
- 3 and 4
- 2 and 3

The correct answer is: 3 and 4

Question 10

Not answered

Marked out of 1.00

High-wing designs are _____ prone to ground effect.

- always
- more
- less

The correct answer is: less

Question 11

Not answered

Marked out of 1.00

Light buffet is felt as you approach the stall.
The nose attitude is abnormally high.
There is heavy buffet as you enter the stall.
The nose drops sharply and a wing may drop.
These symptoms describe the _____ wing stall.

- swept
- washout
- asymmetric
- straight

The correct answer is: straight

Question 12

Not answered

Marked out of 1.00

If a THS runaway is detected by the crew, the 2 most important immediate actions are:

- To decrease airspeed to increase the effectiveness of the THS.
- To counter the pitching moments and hold the aircraft in a sensible attitude.
- To electrically isolate the THS as soon as possible to prevent it from reaching full deflection.
- To increase airspeed to give more effectiveness to the elevator.

The correct answers are: To counter the pitching moments and hold the aircraft in a sensible attitude., To electrically isolate the THS as soon as possible to prevent it from reaching full deflection.

Question 13

Not answered

Marked out of 1.00

Which 2 of the following statements about turning is/are correct?

- Speeds limits are imposed on instrument procedures to keep the aircraft within the procedure's protected airspace.
- Safe separation from terrain cannot be guaranteed if an aircraft flies at less than the designated speed limit for the procedure.
- Speed limits are imposed on instrument procedures to limit the aircraft's radius of turn.
- Speed limits are imposed on instrument procedures to limit the aircraft's rate of turn.

The correct answers are: Speed limits are imposed on instrument procedures to limit the aircraft's radius of turn., Speeds limits are imposed on instrument procedures to keep the aircraft within the procedure's protected airspace.

Question 14

Not answered

Marked out of 1.00

_____ is the speed, below which, an aircraft stalls in level, unaccelerated, flight.

- VS0
- VS1
- VS1G
- VSR

The correct answer is: VS1G

Question 15

Not answered

Marked out of 1.00

Lowering TE flap can cause the CP to move _____.

- forwards
- aft

The correct answer is: aft

Question 16

Not answered

Marked out of 1.00

The forces perpendicular to the flight path in a descent are _____ and a component of _____.

- lift; weight.
- thrust; weight.

The correct answer is: lift; weight.

Question 17

Not answered

Marked out of 1.00

In a turn where the angle of bank, forward velocity and load factor are harmonised, the turn is said to be _____.

- maximised
- coordinated

The correct answer is: coordinated

Question 18

Not answered

Marked out of 1.00

When entering ground effect, maintaining the same coefficient of lift, CL, requires:

- flaps to be set to the landing configuration.
- an increase in thrust.
- a lower angle of attack.
- a greater angle of attack.

The correct answer is: a lower angle of attack.

Question 19

Not answered

Marked out of 1.00

Mass balancing of control surfaces is used to:

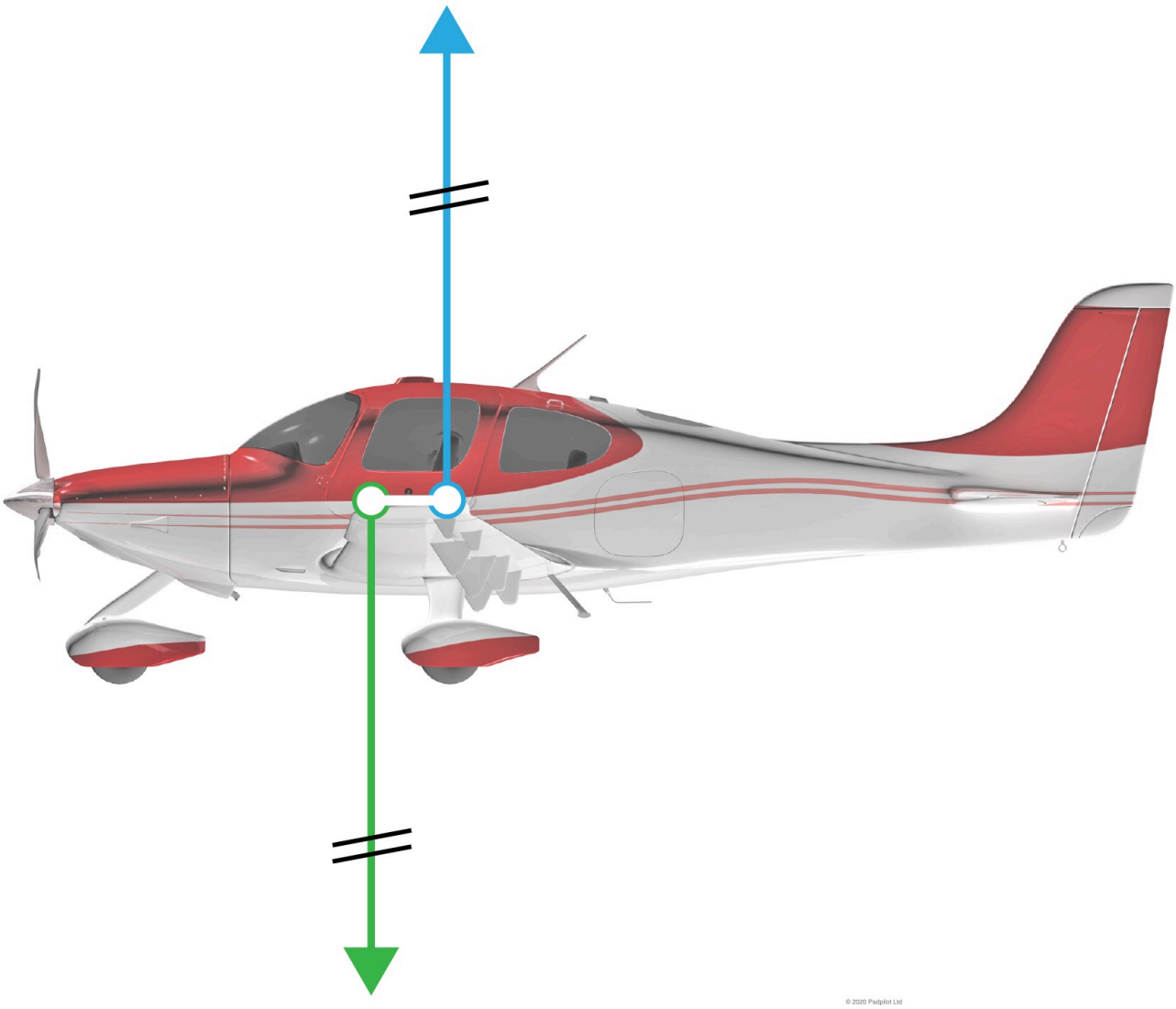
- prevent flutter of control surfaces.
- increase the stick force stability.
- ensure that the control surfaces are in the mid-position during taxiing.
- limit the stick forces.

The correct answer is: prevent flutter of control surfaces.

Question 20

Not answered

Marked out of 1.00



Study the diagram carefully, then identify the correct statement.

- The aircraft is in trim but not in equilibrium.
- The aircraft is in equilibrium and, therefore, in trim.
- The aircraft is not in equilibrium.
- The aircraft is in equilibrium and may or may not be in trim.

The correct answer is: The aircraft is in equilibrium and may or may not be in trim.

Question 21

Not answered

Marked out of 1.00

Which 2 of the following statements about the use of rudder in the turn is/are correct?

- Using rudder to tighten the turn reduces the turn rate.
- Using rudder to accelerate the rate of roll into a turn is a valid technique on CAT aircraft.
- Using rudder to tighten the turn on finals is ineffective and dangerous.
- Use of rudder to accelerate the roll into the turn can result in excessive loads on the fin.

The correct answers are: Use of rudder to accelerate the roll into the turn can result in excessive loads on the fin., Using rudder to tighten the turn on finals is ineffective and dangerous.

Question 22

Not answered

Marked out of 1.00

The primary cause of ground effect is:

- The changing direction of the relative airflow.
- The reduction in parasite drag.
- The blocking by the ground of the circulation of the tip vortices.
- The effect of jet or propeller flow impacting the ground.

The correct answer is: The blocking by the ground of the circulation of the tip vortices.

Question 23

Not answered

Marked out of 1.00

Which of the following statements is/are correct? Mark all correct answers.

- The angle of attack of a THS is primarily controlled by an electrical trim jack.
- The trimmable horizontal stabiliser (THS) uses a conventional elevator for pitch control.
- The angle of attack of an all-flying stabilator is controlled by the pilot's control column.
- The only function of the trim jack on a THS is to change the angle of incidence of the THS, (this may also change the angle of attack).

The correct answers are: The angle of attack of an all-flying stabilator is controlled by the pilot's control column., The trimmable horizontal stabiliser (THS) uses a conventional elevator for pitch control., The only function of the trim jack on a THS is to change the angle of incidence of the THS, (this may also change the angle of attack).

Question 24

Not answered

Marked out of 1.00

A _____ tab moves in the opposite direction from the control surface, thus assisting its movement and so reducing the loads felt at the control column.

- balance
- servo
- anti-balance
- spring

The correct answer is: balance

Question 25

Not answered

Marked out of 1.00

The stall is recognised by continuous stall warning plus at least 1 of the following: Mark all correct answers.

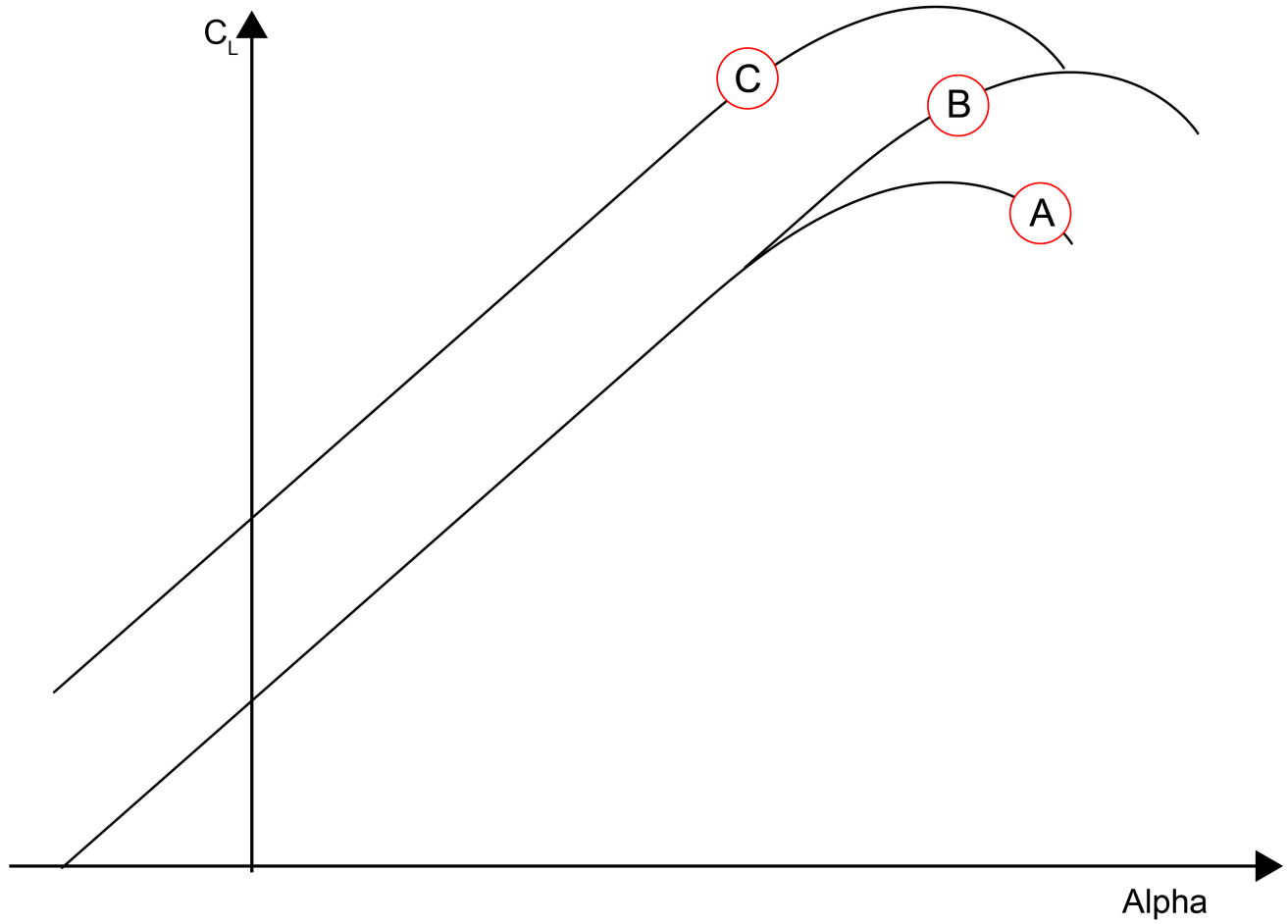
- Uncommanded pitch down and uncommanded roll.
- Lack of pitch authority.
- Low speed.
- Inability to arrest the rate of descent.

The correct answers are: Inability to arrest the rate of descent., Lack of pitch authority., Uncommanded pitch down and uncommanded roll.

Question 26

Not answered

Marked out of 1.00



Study the diagram. Given that A represents the CL alpha curve for a clean wing: Mark 2 correct answers.

- B depicts the effect of slats.
- A depicts a cambered wing.
- A depicts a symmetrical wing.
- C depicts the effect of slats.
- B depicts the effect of trailing edge flap.

The correct answers are: A depicts a cambered wing., B depicts the effect of slats.

Question 27

Not answered

Marked out of 1.00

The forces acting on an aircraft in the glide are: Mark all correct answers.

- Thrust.
- Lift.
- Weight.
- Drag.

The correct answers are: Lift., Weight., Drag.

Question 28

Not answered

Marked out of 1.00

The forces perpendicular to the climb are: components of weight and components of _____.

- lift
- drag

The correct answer is: lift

Question 29

Not answered

Marked out of 1.00

A prolonged climb at a constant rate of climb and thrust will result in a steadily decreasing _____.

- IAS
- alpha

The correct answer is: IAS

Question 30

Not answered

Marked out of 1.00

The up-going aileron deflects through a larger angle than the down-going one, producing more form drag. This is a description of _____ ailerons.

- incremental
- sequential
- frise
- differential

The correct answer is: differential

Question 31

Not answered

Marked out of 1.00

Which of the following statements about roll control is/are correct? Mark all correct answers.

- [ ] The secondary effect of roll is yaw.
- [ ] The purpose of aileron droop is to increase CLMAX at high speed.
- [ ] On some CAT aircraft the outboard ailerons are not used for roll control at high speed.
- [ ] The purpose of the mixer unit is to automatically generate a small rudder movement when the ailerons are moved.

The correct answers are: On some CAT aircraft the outboard ailerons are not used for roll control at high speed., The purpose of the mixer unit is to automatically generate a small rudder movement when the ailerons are moved., The secondary effect of roll is yaw.

Question 32

Not answered

Marked out of 1.00

_____ mechanically reenergise the boundary layer to improve CLMAX and increase the critical angle.

- Wing fences
- Saw-tooth leading edges
- Vortex generators

The correct answer is: Vortex generators

Question 33

Not answered

Marked out of 1.00

Due to a mechanical failure, the flaps are only extended in one of the wings. What will happen?

- The aircraft will roll and yaw to the side where the flaps are not extended.
- The aircraft will roll to the side where the flaps are not extended and yaw to the direction of the wing with extended flaps.
- The aircraft will roll and yaw to the side where the flaps are extended.
- The aircraft will roll to the side where the flaps are extended and yaw to the same direction of the roll.

The correct answer is: The aircraft will roll to the side where the flaps are not extended and yaw to the direction of the wing with extended flaps.

Question 34

Not answered

Marked out of 1.00

This system is known as a:

- Internal balance.
- Spring tab.
- Balance tab.
- Servo tab.

The correct answer is: Balance tab.

Question 35

Not answered

Marked out of 1.00

The purpose of engine nacelle strakes is to: Mark all correct answers.

- Delay the onset of flow separation in the area of the wing behind the nacelle.
- Create a vortex at high alpha which re-energises the boundary layer.
- Locally reduce the upwash at the wing leading edge.
- Ensure stable intake conditions at high alpha.

The correct answers are: Delay the onset of flow separation in the area of the wing behind the nacelle., Create a vortex at high alpha which re-energises the boundary layer., Locally reduce the upwash at the wing leading edge.

Question 36

Not answered

Marked out of 1.00

At high angles of attack the aircraft may roll in the opposite direction from the one commanded by aileron input.

- Because of adverse aileron yaw.
- Because of the increased camber produced by the up-going aileron.
- Because of the increased camber produced by the down-going aileron.
- Because of the asymmetric drag produced by the up-going aileron.

The correct answer is: Because of the increased camber produced by the down-going aileron.

Question 37

Not answered

Marked out of 1.00

Close the power lever. Apply full opposite rudder. Move the controls column centrally forward till the buffet stops. Ease out of the ensuing dive. Is a description of the typical recovery actions for a _____ spin

- clear
- rational
- fully developed
- incipient

The correct answer is: fully developed

Question 38

Not answered

Marked out of 1.00

Ground effect occurs within _____ wingspan(s) of the surface. Its effect strengthens markedly as you get closer to the surface.

- 1
- 2
- 1.5
- 2.5

The correct answer is: 1

Question 39

Not answered

Marked out of 1.00

A swept-back wing, in comparison to a straight wing, has an increased tendency to:

- root stall.
- high-speed stall.
- tip stall.
- mid-wing stall.

The correct answer is: tip stall.

Question 40

Not answered

Marked out of 1.00

W cos y gives the component of weight acting _____ the flight path.

- in the opposite direction along.
- along.
- perpendicular to.

The correct answer is: perpendicular to.

Question 41

Not answered

Marked out of 1.00

At zero g the load factor is zero. The aircraft _____ stall.

- cannot
- will
- can

The correct answer is: cannot

Question 42

Not answered

Marked out of 1.00

The purpose of the slot is to _____.

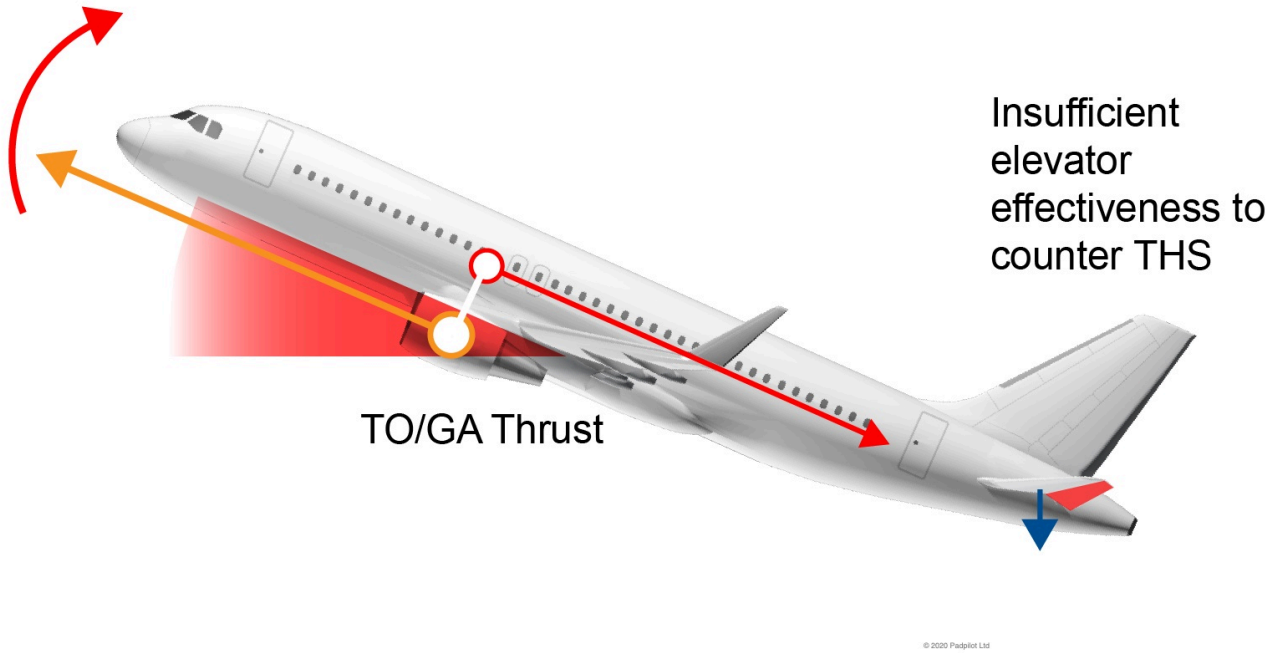
- maintain a laminar flow across the entire upper surface.
- reattach the upper surface flow.
- delay flow separation.

The correct answer is: delay flow separation.

Question 43

Not answered

Marked out of 1.00



Study the scenario shown in this diagram. Then choose the action most likely to immediately improve the situation.

- Extend flap.
- Reduce thrust.
- Reduce speed.
- Increase speed.

The correct answer is: Reduce thrust.

Question 44

Not answered

Marked out of 1.00

An aerodynamic balancing device, which makes it possible for a large surface to be deflected by a relatively small control force, is called:

- an anti-balance tab.
- a horn balance.
- a servo tab.
- a balance tab.

The correct answer is: a servo tab.

Question 45

Not answered

Marked out of 1.00

As you approach the 1g stall, the flight controls become _____ effective. The aircraft responds slowly and sluggishly to your commands. _____ flight controls feel light (easier to operate) as you approach the stall

- less; Manual.
- less; Powered.
- more; Manual.
- more; Powered.

The correct answer is: less; Manual.