Stalling

1. Stalling speed is increased by an increase in

   a) load factor
   b) flap setting
   c) angle of attack
   d) power

2 An aircraft will stall:

   a) at a higher speed if power is increased.
   b) at the same indicated airspeed as altitude increases.
   c) when the aircraft's weight exceeds lift.
   d) at a lower indicated airspeed as weight increases.

3 As ice forms on the wings of an aircraft during flight, the stalling speed:

   a) increases, but the stalling angle remains the same.
   b) increases, but the stalling angle increases.
   c) increases, but the stalling angle decreases.
   d) remains the same, but the stalling angle decreases.

4 Aircraft A and aircraft B are identical aircraft. Because of their loading for a particular flight aircraft A is half the weight of aircraft B. If aircraft A now stalls at 65 kt, at what speed will aircraft B stall?

   a) 33 kt.
   b) 46 kt.
   c) 92 kt.
   d) 130 kt.

5 Wing tip stalling is prevented by:

   a) sweepback
   b) giving the wing tip a sharp leading edge
   c) wash-in on the wing
   d) wash-out on the wing

6 An aircraft wing stalls at:

   a) the same angle of attack for all conditions
   b) the same Indicated Air Speed for all conditions
   c) the same True Air Speed for all conditions
   d) a decreasing angle of attack for decreasing weight

7 A rectangular wing, as compared to other wing planforms, has a tendency to stall first at the

a) wing root providing adequate stall warning
b) wing tip providing adequate stall warning
c) wing root providing inadequate stall warning
d) wing tip providing inadequate stall warning

8 When a swept wing aircraft suffers a wing tip stall, the centre of pressure moves.

a) inwards and forward
b) outwards and aft
c) inwards and backwards
d) outwards and forwards

9 In a high speed stall the stalling angle of attack is:

a. greater than in normal flight with power off;
b. less than in normal flight with power off;
c. the same as in normal flight with power off;
d. entirely dependant on the wing loading at the stall.

10 'Washout' is a feature designed to:

a. reduce the trailing edge vortices;
b. prevent aileron reversal;
c. prevent the wing tips stalling before the wing roots;
d. ensure that the wing tips stall before the wing roots.

11 If an angle of attack of an aerofoil was such that any change in either direction results in a decrease in C_L, then that aerofoil is at the:

a. angle of attack for best lift to drag ratio;
b. angle of attack for maximum drag;
c. critical or stalling angle of attack;
d. angle of attack for minimum drag.

12 The use of a stall inducer or stall wedge will:

a) cause the wing to stall first at the root
b) cause the wing to stall first at the tip
c) delay wing root end stall
d) re-energise the boundary layer at the wing root

13 A vortex generator may be used to:

a) prevent wing tip vortices
b) re-energise the boundary layer to delay M_{CRIT}
c) re-energise the boundary layer to delay separation
d) re-energise the boundary layer to advance separation

14 Which of the following factors would alter the indicated stalling speed of a piston aeroplane

a) power setting
b) air density
c) altitude
d) density altitude

15 Aircraft A and aircraft B are identical aircraft. Because of their loading for a particular flight, aircraft A is twice the weight of aircraft B. If aircraft A now stalls at 100 kts, at what speed will aircraft B stall?

a) 200kt
b) 50kt
c) 70kt
d) 141kt

16 A wing stalling angle is :

a) unaffected by a turn.
b) increased in a high rate of turn.
c) decreased in a high rate of turn.
d) none of the above.

17 A rectangular wing (compared to other wing planforms) has a tendency to stall first at the wing root, which will provide

a) adequate stall warning
b) no stall warning
c) inadequate stall warning
d) poor aileron response

18 Low wing loading :

a) increases stalling speed, landing speed and landing run.
b) increases lift, stalling speed and manoeuvrability.
c) decreases stalling speed, landing speed and landing run.
d) decreases stalling speed, lift produced and manoeuvrability.

19 A decrease in incidence toward the wing tip may be provided to :

a) prevent adverse yaw in turn.
b) prevent spanwise flow in manoeuvres.
c) retain lateral control effectiveness at high angles of attack.
d) create a more even lift distribution over the wing.

20 A decrease in the angle of incidence towards the wing tip from the wing root is called

a) tip angle
b) wash out
c) wash in
d) wing twist

21 The level flight stall speed (IAS) of your aircraft is 60 kts. What would be your approximate stall speed if the load factor is increased from 1g to 2g

a) 105 kts
b) 60 kts
c) 85 kts
d) 120 kts

22 In comparison to a stall in straight and level flight, how will a sudden pull out from a dive affect the stall IAS and stalling angle

a) stall IAS will increase; stalling angle will be less
b) stall IAS will remain constant; stalling angle will be less
c) stall IAS and stalling angle will both increase
d) stall IAS will increase; stalling angle will remain constant

23 An aircraft, in a given configuration, will stall at:

a) a constant TAS
b) a constant IAS
c) a constant angle of attack
d) a variable angle of attack

Answers

1.a 2.b 3.c 4.c 5.d 6.a 7.a 8.a 9.c 10.c 11.c 12.a 13.c 14.a 15.c 16.a 17.a 18.c 19.c 20.b 21.c 22.d 23.c