Ground Effect

1 Ground effect is a result of

a) lessening of upwash, downwash and vortices
b) the aircraft sitting on a cushion of air
c) reduction of induced drag
d) decrease in parasite drag

2 When is ground effect most noticeable

a) during landing flare
b) during takeoff with a heavy aircraft
c) when flying over smooth surfaces
d) when flying lower than 3 wingpans from the ground

3 When in ground effect

a) aspect ratio effectively decreases
b) aspect ratio effectively increases
c) aspect ratio does not change
d) downwash increases

4 When an aircraft is in ground effect

a) aspect ratio effectively increases
b) aspect ratio effectively decreases
c) aspect ratio does not change
d) downwash increases

5 An aircraft flying in in ground effect will experience

a) an increase in aspect ratio
b) a decrease in aspect ratio
c) no change in aspect ratio
d) an increase in downwash

6 An aircraft will enter ground effect when

a) when flying closer that 4 wingspans above the ground
b) when flying within 1 to 2 meters from the ground
c) when flying within 1 to 2 wingspans from the ground
d) it is a low wing aircraft

7 When an aircraft is in ground effect, it experiences an effective increase in aspect ratio. This is due to

a) the change in upwash and downwash
b) an increase in tip vortices reducing spanwise flow
c) a reduction in tip vortices reducing spanwise flow
d) a large increase in pressure below the aircraft

8 What would be the effect of ground effect on an aircraft when landing

a) the aircraft would sink on to the runway
b) the aircraft would climb without any pilot input
c) the aircraft would slow down
d) the aircraft would tend to float down the runway and not touch down

9 An aircraft leaving ground effect will

a) require a lower angle of attack to maintain the same lift coefficient
b) experience an increase in induced drag and require more thrust
c) display more stability and a nose-down change in moment
d) require a higher angle of attack to maintain the same lift coefficient

10 An aircraft leaving ground effect will

a) require a greater angle of attack to maintain the same coefficient of lift
b) produce less induced drag and require less thrust
c) produce more static source pressure and a higher indicated airspeed
d) display more stability and a nose-down change in moment

Answers

1.a 2.b 3.b 4.a 5.b 6.c 7.c 8.d 9.b 10.a