T E M A: 0155 COMMERCIAL PILOT - (CH. 1) BASIC AERODYNAMICS

COD_PREG:	P R E G U N T A:	RPTA:
5017	If an airplane category is listed as utility, it would mean that this airplane could be operated in which of the following maneuvers?	B
OPCION A:	Limited acrobatics, excluding spins.	
OPCION B:	Limited acrobatics, including spins (if approved).	
OPCION C:	Any maneuver except acrobatics or spins.	
5151	The ratio between the total airload imposed on the wing and the gross weight of an aircraft in flight is known as	A
OPCION A:	load factor and directly affects stall speed.	
OPCION B:	aspect load and directly affects stall speed.	
OPCION C:	load factor and has no relation with stall speed.	
5152	Load factor is the lift generated by the wings of an aircraft at any given time	A
OPCION A:	divided by the total weight of the aircraft.	
OPCION B:	multiplied by the total weight of the aircraft.	
OPCION C:	divided by the basic empty weight of the aircraft.	
5153	For a given angle of bank, in any airplane, the load factor imposed in a coordinated constant-altitude turn	A
OPCION A:	is constant and the stall speed increases.	
OPCION B:	varies with the rate of turn.	
OPCION C:	is constant and the stall speed decreases.	
5154	Airplane wing loading during a level coordinated turn in smooth air depends upon the	B
OPCION A:	rate of turn.	
OPCION B:	angle of bank.	
OPCION C:	true airspeed.	
5155	In a rapid recovery from a dive, the effects of load factor would cause the stall speed to	A
OPCION A:	increase.	
OPCION B:	decrease.	
OPCION C:	not vary.	
5156	If an aircraft with a gross weight of 2,000 pounds was subjected to a 60° constant-altitude bank, the total load would be	B
OPCION A:	3,000 pounds.	
OPCION B:	4,000 pounds.	
OPCION C:	12,000 pounds.	
5157	While maintaining a constant angle of bank and altitude in a coordinated turn, an increase in airspeed will	B
OPCION A:	decrease the rate of turn resulting in a decreased load factor.	
OPCION B:	decrease the rate of turn resulting in no change in load factor.	
OPCION C:	increase the rate of turn resulting in no change in load factor.	
5158	Lift on a wing is most properly defined as the	A
OPCION A:	force acting perpendicular to the relative wind.	
OPCION B:	differential pressure acting perpendicular to the chord of the wing.	
OPCION C:	reduced pressure resulting from a laminar flow over the upper camber of an airfoil, which acts perpendicular to the mean camber.	
5159	While holding the angle of bank constant, if the rate of turn is varied the load factor would	A
OPCION A:	remain constant regardless of air density and the resultant lift vector.	
OPCION B:	vary depending upon speed and air density provided the resultant lift vector varies proportionately.	
OPCION C:	vary depending upon the resultant lift vector.	

5160 The need to slow an aircraft below Va is brought about by the following weather phenomenon: B
OPCION A: High density altitude which increases the indicated stall speed.
OPCION B: Turbulence which causes an increase in stall speed.
OPCION C: Turbulence which causes a decrease in stall speed.

5161 In theory, if the airspeed of an airplane is doubled while in level flight, parasite drag will become C
OPCION A: twice as great.
OPCION B: half as great.
OPCION C: four times greater.

5162 As airspeed decreases in level flight below that speed for maximum lift/drag ratio, total drag of an airplane B
OPCION A: decreases because of lower parasite drag.
OPCION B: increases because of increased induced drag.
OPCION C: increases because of increased parasite drag.

5163 If the airspeed is increased from 90 knots to 135 knots during a level 60° banked turn, the load factor will C
OPCION A: increase as well as the stall speed.
OPCION B: decrease and the stall speed will increase.
OPCION C: remain the same but the radius of turn will increase.

5165 At the airspeed represented by point A, in steady flight, the airplane will A
OPCION A: have its maximum L/D ratio.
OPCION B: have its minimum L/D ratio.
OPCION C: be developing its maximum coefficient of lift.

5166 At an airspeed represented by point B, in steady flight, the pilot can expect to obtain the airplane's maximum B
OPCION A: endurance.
OPCION B: glide range.
OPCION C: coefficient of lift.

5167 Which statement is true relative to changing angle of attack? B
OPCION A: A decrease in angle of attack will increase impact pressure below the wing, and decrease drag.
OPCION B: An increase in angle of attack will increase increase drag.
OPCION C: An increase in angle of attack will decrease impact pressure below the wing, and increase drag.

5179 Select the correct statement regarding stall speeds. C
OPCION A: Power-off stalls occur at higher airspeeds with the gear and flaps down.
OPCION B: In a 60° bank the airplane stalls at a lower airspeed with the gear up.
OPCION C: Power-on stalls occur at lower airspeeds in shallower banks.

5180 Select the correct statement regarding stall speeds. The airplane will stall A
OPCION A: 10 knots higher in a power-on 60° bank with gear and flaps up than with gear and flaps down.
OPCION B: 25 knots lower in a power-off, flaps up, 60° bank, than in a power-off, flaps down, wings-level configuration.
OPCION C: 10 knots higher in a 45° bank, power-on stall than in a wings-level stall with flaps up.

5181 Which is true regarding the use of flaps during level turns? B
OPCION A: The lowering of flaps increases the stall speed.
OPCION B: The raising of flaps increases the stall speed.
OPCION C: Raising flaps will require added forward pressure on the yoke or stick.

5182 One of the main functions of flaps during the approach and landing is to B
OPCION A: decrease the angle of descent without increasing the airspeed.
OPCION B: provide the same amount of lift at a slower airspeed.
OPCION C: decrease lift, thus enabling a steeper-than-normal approach to be made.

5192 To increase the rate of turn and at the same time decrease the radius, a pilot should C
OPCION A: maintain the bank and decrease airspeed.
OPCION B: increase the bank and increase airspeed.
OPCION C: increase the bank and decrease airspeed.

5193 Which is correct with respect to rate and radius of turn for an airplane flown in a coordinated turn at a constant altitude? A
OPCION A: For a specific angle of bank and airspeed, the rate and radius of turn will not vary.
OPCION B: To maintain a steady rate of turn, the angle of bank must be increased as the airspeed is decreased.
OPCION C: The faster the true airspeed, the faster the rate and larger the radius of turn regardless of the angle of bank.

5194 Why is it necessary to increase back elevator pressure to maintain altitude during a turn? To compensate for the A
OPCION A: loss of vertical component of lift.
OPCION B: loss of the horizontal component of lift and the increase in centrifugal force.
OPCION C: rudder deflection and slight opposite aileron throughout the turn.

5195 To maintain altitude during a turn, the angle of attack must be increased to compensate for the decrease in the B
OPCION A: forces opposing the resultant component of drag.
OPCION B: vertical component of lift.
OPCION C: horizontal component of lift.

5196 Stall speed is affected by A
OPCION A: weight, load factor, and power.
OPCION B: load factor, angle of attack, and power.
OPCION C: angle of attack, weight, and air density.

5197 A rectangular wing, as compared to other wing planforms, has a tendency to stall first at the B
OPCION A: wingtip, with the stall progression toward the wing root.
OPCION B: wing root, with the stall progression toward the wing tip.
OPCION C: center trailing edge, with the stall progression outward toward the wing root and tip.

5198 By changing the angle of attack of a wing, the pilot can control the airplane's A
OPCION A: lift, airspeed, and drag.
OPCION B: lift, airspeed, and CG.
OPCION C: lift and airspeed, but not drag.

5199 The angle of attack of a wing directly controls the C
OPCION A: angle of incidence of the wing.
OPCION B: amount of airflow above and below the wing.
OPCION C: distribution of pressures acting on the wing.

5200 In theory, if the angle of attack and other factors remain constant and the airspeed is doubled, the lift produced at the higher speed will be C
OPCION A: the same as at the lower speed.
OPCION B: two times greater than at the lower speed.
OPCION C: four times greater than at the lower speed.

5201 An aircraft wing is designed to produce lift resulting from a difference in the C
OPCION A: negative air pressure below and vacuum above the wing's surface.
OPCION B: a vacuum below the wing's surface and greater air pressure above the wing's surface.
OPCION C: higher air pressure below the wing's surface and lower air pressure above the wing's surface.

5202 On a wing, the force of lift acts perpendicular to and the force of drag acts parallel to the B
OPCION A: chord line.
OPCION B: flightpath.
OPCION C: longitudinal axis.

5203 Which statement is true, regarding the opposing forces acting on an airplane in steady-state level flight? A
OPCION A: These forces are equal.
OPCION B: Thrust is greater than drag and weight and lift are equal.
OPCION C: Thrust is greater than drag and lift is greater than weight.

5204 The angle of attack at which a wing stalls remains constant regardless of — A
OPCION A: weight, dynamic pressure, bank angle, or pitch attitude.
OPCION B: dynamic pressure, but varies with weight, bank angle, and pitch attitude.
OPCION C: weight and pitch attitude, but varies with dynamic pressure and bank angle.

5205 In small airplanes, normal recovery from spins may become difficult if the — B
OPCION A: CG is too far rearward and rotation is around the longitudinal axis.
OPCION B: CG is too far rearward and rotation is around the CG.
OPCION C: spin is entered before the stall is fully developed.

5206 Recovery from a stall in any airplane becomes more difficult when its — A
OPCION A: center of gravity moves aft.
OPCION B: center of gravity moves forward.
OPCION C: elevator trim is adjusted nosedown.

5207 If an airplane is loaded to the rear of its CG range, it will tend to be unstable about its — B
OPCION A: vertical axis.
OPCION B: lateral axis.
OPCION C: longitudinal axis.

5209 An airplane leaving ground effect will — B
OPCION A: experience a reduction in ground friction and require a slight power reduction.
OPCION B: experience an increase in induced drag and require more thrust.
OPCION C: require a lower angle of attack to maintain the same lift coefficient.

5210 If airspeed is increased during a level turn, what action would be necessary to maintain altitude? The angle of attack — C
OPCION A: and angle of bank must be decreased.
OPCION B: must be increased or angle of bank decreased.
OPCION C: must be decreased or angle of bank increased.

5211 The stalling speed of an airplane is most affected by — C
OPCION A: changes in air density.
OPCION B: variations in flight altitude.
OPCION C: variations in airplane loading.

5212 An airplane will stall at the same — A
OPCION A: angle of attack regardless of the attitude with relation to the horizon.
OPCION B: airspeed regardless of the attitude with relation to the horizon.
OPCION C: angle of attack and attitude with relation to the horizon.

5213 If an airplane glides at an angle of attack of 10°, how much altitude will it lose in 1 mile? — B
OPCION A: 240 feet.
OPCION B: 480 feet.
OPCION C: 960 feet.

5214 How much altitude will this airplane lose in 3 miles of gliding at an angle of attack of 8°? — C
OPCION A: 440 feet.
OPCION B: 880 feet.
OPCION C: 1,320 feet.

5215 The L/D ratio at a 2° angle of attack is approximately the same as the L/D ratio for a — C
OPCION A: 9.75° angle of attack.
OPCION B: 10.5° angle of attack.
OPCION C: 16.5° angle of attack.

5216 If the same angle of attack is maintained in ground effect as when out of ground effect, lift will — A
OPCION A: increase, and induced drag will decrease.
OPCION B: decrease, and parasite drag will increase.
OPCION C: increase, and induced drag will increase.

5217 What performance is characteristic of flight at maximum lift/drag ratio in a propeller-driven airplane? — B
OPCION A: gain in altitude over a given distance.
OPCION B: range and maximum distance glide.
OPCION C: coefficient of lift and minimum coefficient of drag.

5218 Which is true regarding the forces acting on an aircraft in a steady-state descent? The sum of all — C
OPCION A: upward forces is less than the sum of all downward forces.
OPCION B: rearward forces is greater than the sum of all forward forces.
OPCION C: forward forces is equal to the sum of all rearward forces.

5219 Which is true regarding the force of lift in steady, unaccelerated flight? — B
OPCION A: At lower speeds the angle of attack must be less to generate sufficient lift to maintain altitude.
OPCION B: There is a corresponding indicated airspeed required for every angle of attack to generate sufficient lift to maintain altitude.
OPCION C: An airfoil will always stall at the same indicated airspeed; therefore, an increase in weight will require an increase in speed to generate sufficient lift to maintain altitude.

5220 During the transition from straight-and-level flight to a climb, the angle of attack is increased and lift — C
OPCION A: is momentarily decreased.
OPCION B: remains the same.
OPCION C: is momentarily increased.

5221 What is the stall speed of an airplane under a load factor of 2 Gs if the unaccelerated stall speed is 60 knots? — C
OPCION A: 66 knots.
OPCION B: 74 knots.
OPCION C: 84 knots.

5222 What increase in load factor would take place if the angle of bank were increased from 60° to 80°? — C
OPCION A: 3 Gs.
OPCION B: 3.5 Gs.
OPCION C: 4 Gs.

5223 To generate the same amount of lift as altitude is increased, an airplane must be flown at — C
OPCION A: the same true airspeed regardless of angle of attack.
OPCION B: a lower true airspeed and a greater angle of attack.
OPCION C: a higher true airspeed for any given angle of attack.

5224 To produce the same lift while in ground effect as when out of ground effect, the airplane requires — A
OPCION A: a lower angle of attack.
OPCION B: the same angle of attack.
OPCION C: a greater angle of attack.

5225 As the angle of bank is increased, the vertical component of lift — A
OPCION A: decreases and the horizontal component of lift increases.
OPCION B: increases and the horizontal component of lift decreases.
OPCION C: decreases and the horizontal component of lift remains constant.

5226 If the airplane attitude remains in a new position after the elevator control is pressed forward and released, the airplane displays — A
OPCION A: neutral longitudinal static stability.
OPCION B: positive longitudinal static stability.
OPCION C: neutral longitudinal dynamic stability.

5227 Longitudinal dynamic instability in an airplane can be identified by — B
OPCION A: bank oscillations becoming progressively steeper.
OPCION B: pitch oscillations becoming progressively steeper.
OPCION C: Trilatitudinal roll oscillations becoming progressively steeper.

5228 Longitudinal stability involves the motion of the airplane controlled by its — B
OPCION A: rudder.
OPCION B: elevator.
OPCION C: ailerons.

5229 What changes in airplane longitudinal control must be made to maintain altitude while the airspeed is being decreased? — B
OPCION A: Increase the angle of attack to produce more lift than drag.
OPCION B: Increase the angle of attack to compensate for the decreasing lift.
OPCION C: decrease the angle of attack to compensate for the increasing drag.

5230 If the airplane attitude initially tends to return to its original position after the elevator control is pressed forward and released, the airplane displays — B
OPCION A: positive dynamic stability.
OPCION B: positive static stability.
OPCION C: neutral dynamic stability.

5231 The horizontal dashed line from point C to point E represents the — B
OPCION A: ultimate load factor.
OPCION B: positive limit load factor.
OPCION C: airspeed range for normal operations.

5232 The vertical line from point E to point F is represented on the airspeed indicator by the — A
OPCION A: upper limit of the yellow arc.
OPCION B: upper limit of the green arc.
OPCION C: blue radial line.

5238 A propeller rotating clockwise as seen from the rear, creates a spiraling slipstream the spiralling slipstream along with torque effect, tends to rotate the airplane to the — B
OPCION A: right around the vertical axis, and to the left around the longitudinal axis.
OPCION B: left around the vertical axis, and to the right around the longitudinal axis.
OPCION C: left around the vertical axis, and to the left around the longitudinal axis.

5505 Which maximum range factor decreases as weight decreases? — B
OPCION A: Altitude.
OPCION B: Airspeed.
OPCION C: Angle of attack.

5750 Choose the correct statement regarding wake turbulence. — B
OPCION A: Vortex generation begins with the initiation of the takeoff roll.
OPCION B: The primary hazard is loss of control because of induced roll.
OPCION C: The greatest vortex strength is produced when the generating airplane is heavy, clean, and fast.

5751 During a takeoff made behind a departing large jet airplane, the pilot can minimize the hazard of wingtip vortices by — A
OPCION A: being airborne prior to reaching the jet's flightpath until able to turn clear of its wake.
OPCION B: maintaining extra speed on takeoff and climbout.
OPCION C: extending the takeoff roll and not rotating until well beyond the jet's rotation point.

5752 Which procedure should you follow to avoid wake turbulence if a large jet crosses your course from left to right approximately 1 mile ahead and at your altitude? — A
OPCION A: Make sure you are slightly above the path of the jet.
OPCION B: Slow your airspeed to Va and maintain altitude and course.
OPCION C: Make sure you are slightly below the path of the jet and perpendicular to the course.

5753	To avoid possible wake turbulence from a large jet aircraft that has just landed prior to your takeoff, at which point on the runway should you plan to become airborne?	A
OPCION A:	Past the point where the jet touched down.	
OPCION B:	At the point where the jet touched down, or just prior to this point.	
OPCION C:	Approximately 500 feet prior to the point where the jet touched down.	

5754	When landing behind a large aircraft, which procedure should be followed for vortex avoidance?	A
OPCION A:	Stay above its final approach flightpath all the way to touchdown.	
OPCION B:	Stay below and to one side of its final approach flightpath.	
OPCION C:	Stay well below its final approach flightpath and land at least 2000 feet behind.	