TEMA: 0155 COMMERCIAL PILOT - (CH. 1) BASIC AERODYNAMICS

COD_PREG:	PREGUNTA:	RPTA:
PREG20080148	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.	
OPCION D:		

PREG20080149	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.	
OPCION D:		

PREG20080150	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.	
OPCION D:		

PREG20080151	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.	
OPCION D:		

PREG20080152	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.	
OPCION D:		

PREG20080153	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.	
OPCION D:		

PREG20080154	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.	
OPCION D:		

PREG20080155	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.	
OPCION D:		

PREG20080156	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.	
OPCION D:		

PREG20080157	While holding the angle of bank constant in a level turn, 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.	
OPCION D:		

PREG20080158	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.	
OPCION D:		

PREG20080159	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.	
OPCION D:		

PREG20080160	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.	
OPCION D:		

PREG20080161	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.	
OPCION D:		

PREG20080162	(Ver figura 1) 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.	
OPCION D:		

PREG20080163	(Ver Figura 1) 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.	
OPCION D:		

PREG20080164	Which statement is true relative to changing angle of attack?	B
OPCION A:	A decrease in angle of attack will increase pressure below the wing, and decrease drag.	
OPCION B:	An increase in angle of attack will increase drag.	
OPCION C:	An increase in angle of attack will decrease pressure below the wing, and increase drag.	
OPCION D:		

PREG20080165	(Ver Figura 2) 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.	
OPCION D:		

PREG20080166	(Ver Figura 2) 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.	
OPCION D:		

PREG20080167	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.	
OPCION D:		

PREG20080168	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.	
OPCION D:		

PREG20080169	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.	
OPCION D:		

PREG20080170	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.	
OPCION D:		

PREG20080171	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.	
OPCION D:		

PREG20080172	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.	
OPCION D:		

PREG20080173	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.	
OPCION D:		

PREG20080174	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.	
OPCION D:		

PREG20080175	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.	
OPCION D:		

PREG20080176	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.	
OPCION D:		

PREG20080177	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.	
OPCION D:		

PREG20080178	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:	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.	
OPCION D:		

PREG20080209	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.	
OPCION D:		

PREG20080179	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.	
OPCION D:		

PREG20080180	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.	
OPCION D:		

PREG20080181	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.	
OPCION D:		

PREG20080182	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.	
OPCION D:		

PREG20080183	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.	
OPCION D:		

PREG20080184	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.	
OPCION D:		

PREG20080185	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.	
OPCION D:		

PREG20080186	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.	
OPCION D:		

PREG20080187	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.	
OPCION D:		

PREG20080188	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.	
OPCION D:		

PREG20080189	Figure 3 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.	
OPCION D:		

PREG20080190	Figure 3 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.
OPCION D:

PREG20080191 Figure 3 C
The L/D ratio at a 2° angle of attack is approximately the same as the L/D ratio for a
OPCION A: 9.75° angle of attack.
OPCION B: 10.5° angle of attack.
OPCION C: 16.5° angle of attack.
OPCION D:

PREG20080192 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.
OPCION D:

PREG20080193 What performance is characteristic of flight at maximum lift/drag ratio in a propeller-driven airplane? Maximun 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.
OPCION D:

PREG20080194 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.
OPCION D:

PREG20080195 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.
OPCION D:

PREG20080196 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.
OPCION D:

PREG20080197 Figure 4 C
What is the stall speed of an airplane under a load factor of 2 Gs if the unaccelerated stall speed is 60 knots?
OPCION A: 66 knots.
OPCION B: 74 knots.
OPCION C: 84 knots.
OPCION D:

PREG20080198 Figure 4 C
What increase in load factor would take place if the angle of bank were increased from 60° to 80°?
OPCION A: 3 Gs.
OPCION B: 3.5 Gs.
OPCION C: 4 Gs.
OPCION D:

PREG20080199 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.
OPCION D:

PREG20080200 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.
OPCION D:

PREG20080201 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.
OPCION D:

PREG20080202 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.

OPCION D:

PREG20080203	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.	
OPCION D:		

PREG20080204	Longitudinal stability involves the motion of the airplane controlled by its	B
OPCION A:	rudder.	
OPCION B:	elevator.	
OPCION C:	ailerons.	
OPCION D:		

PREG20080205	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.	
OPCION D:		

PREG20080206	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.	
OPCION D:		

PREG20080207	Figure 5 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.	
OPCION D:		

PREG20080208	Figure 5 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.	
OPCION D:		

PREG20080210	Which maximum range factor decreases as weight decreases?	B

OPCION A: Altitude.
OPCION B: Airspeed.
OPCION C: Angle of attack.
OPCION D:

PREG20080211 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.
OPCION D:

PREG20080212 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.
OPCION D:

PREG20080213 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.
OPCION D:

PREG20080214 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.
OPCION D:

PREG20080215 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.
OPCION D:
