TEMA: 0621 ATP-RTC - Aerodynamics - Chap.3

COD_PREG:	PREGUNTA:	RPTA:
PREG20097876 (8345)	What effect does an increase in airspeed have on a coordinated turn while maintaining a constant angle of bank and altitude?	C
OPCION A:	The rate of turn will decrease resulting in a decreased load factor	
OPCION B:	The rate of turn will increase resulting in an increased load factor	
OPCION C:	The rate of turn will decrease resulting in no changes in load factor	
OPCION D:		

PREG20097877 (8346)	What is the effect on total drag of an aircraft if the airspeed decreases in level flight below that speed for maximum L/D?	A
OPCION A:	Drag increases because of increased induced drag.	
OPCION B:	Drag increases because of increased parasite drag	
OPCION C:	Drag decreases because of lower induced drag	
OPCION D:		

PREG20097878 (8347)	What is load factor?	C
OPCION A:	Lift multiplied by the total weight	
OPCION B:	Lift subtracted from the total weight	
OPCION C:	Lift divided by the total weight	
OPCION D:		

PREG20097879 (8348)	What affects indicated stall speed?	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:		

PREG20097880 (8349)	If no corrective action is taken by the pilot as angle of bank is increased, how is the vertical component of lift and sink rate affected?	C
OPCION A:	Lift increases and the sink rate increases	
OPCION B:	Lift decreases and the sink rate decreases	
OPCION C:	Lift decreases and the sink rate increases	
OPCION D:		

PREG20097881 (8350)	Why must the angle of attack be increased during a turn to maintain altitude?	A
OPCION A:	Compensate for loss of vertical component of lift	
OPCION B:	Increase the horizontal component of lift equal to the vertical component	
OPCION C:	Compensate for increase in drag	

OPCION D:

PREG20097882 (8351) How can the pilot increase the rate of turn and decrease the radius at the same time? B

OPCION A: Steepen the bank and increase airspeed
OPCION B: Steepen the bank and decrease airspeed
OPCION C: Shallow the bank and increase airspeed
OPCION D:

PREG20097883 (8352) What is the relationship of the rate of turn with the radius of turn with a constant angle of bank but increasing airspeed? A

OPCION A: Rate will decrease and radius will increase
OPCION B: Rate will increase and radius will decrease
OPCION C: Rate and radius will increase
OPCION D:

PREG20097884 (8353) Upon which factor does wing loading during a level coordinated turn in smooth air depend? B

OPCION A: Rate of turn
OPCION B: Angle of bank
OPCION C: True airspeed
OPCION D:

PREG20097885 (8354) If an aircraft with a gross weight of 2,000 pounds were subjected to a total load of 6,000 pounds in flight, the load factor would be B

OPCION A: 2 Gs.
OPCION B: 3 Gs
OPCION C: 9 Gs.
OPCION D:

PREG20097886 (8355) What is the ratio between the total air load imposed on the rotor disc and the gross weight of a helicopter in flight? B

OPCION A: Power loading.
OPCION B: Load factor.
OPCION C: Aspect ratio.
OPCION D:

PREG20097887 (8365) Identify the type stability if the aircraft attitude remains in the new position after the controls have been neutralized C

OPCION A: Negative longitudinal static stability
OPCION B: Neutral longitudinal dynamic stability
OPCION C: Neutral longitudinal static stability
OPCION D:

PREG20097888 (8368)	What is the reason for variations in geometric pitch along a propeller or rotor blade?	A
OPCION A:	It permits a relatively constant angle of attack along its length when in cruising flight.	
OPCION B:	It prevents the portion of the blade near the hub or root fron stalling during cruising flight.	
OPCION C:	It permits a relatively constant angle of incidence along its length when in cruising flight.	
OPCION D:		

PREG20097889 (8372)	Identify the type stability if the aircraft attitude tends to move farther from its original position after the controls have been neutralized	A
OPCION A:	Negative static stability	
OPCION B:	Positive static stability	
OPCION C:	Negative dynamic stability	
OPCION D:		

PREG20097890 (8373)	Identify the type stability if the aircraft attitude tends to return to its original position after the controls have been neutralized	B
OPCION A:	Positive dynamic stability	
OPCION B:	Positive static stability	
OPCION C:	Neutral dynamic stability	
OPCION D:		

PREG20097891 (8375)	What flight condition should be expected when an aircraft leaves ground effect?	A
OPCION A:	An increase in induced drag requiring a higher angle of attack	
OPCION B:	A decrease in parasite drag permitting a lower angle of attack	
OPCION C:	An increase in dynamic stability	
OPCION D:		

PREG20097892 (8376)	What characteristic should exist if an airplane is loaded to the rear of its CG range?	C
OPCION A:	Sluggish in aileron control	
OPCION B:	Sluggish in rudder control	
OPCION C:	Unstable about the lateral axis	
OPCION D:		

PREG20097893 (8377)	What will be the ratio between airspeed and lift if the angle attack and other factors remain constant and airspeed is doubled? Lift will be	C
OPCION A:	the same	
OPCION B:	two times greater	
OPCION C:	four times greater	
OPCION D:		

PREG20097894 (8378)	What true airspeed and angle of attack should be used to generate the same of lift as altitude is increased?	B
OPCION A:	The same true airspeed and angle of attack	
OPCION B:	A higher true airspeed for any given angle of attack	
OPCION C:	A lower true airspeed and higher angle of attack	
OPCION D:		

PREG20097895 (8396)	For a given angle of bank, the load factor imposed on both the aircraft and pilot in a coordinated constant-altitude turn	C
OPCION A:	is directy related to the airplane's gross weight	
OPCION B:	varies with the rate of turn	
OPCION C:	is constant	
OPCION D:		

PREG20097896 (8397)	What is the relationship between induced anda parasite drag when the gross weight is increased?	B
OPCION A:	Parasite drag increases more than induced drag	
OPCION B:	Induced drag increases more than parasite drag.	
OPCION C:	Both parasite and induced drag are equally increased	
OPCION D:		

PREG20097897 (8402)	How should a pilot execute a pinnacle-type approach to a rooftop heliport in conditions of high wind and turbulence?	A
OPCION A:	Steeper-than-normal approach, maintaining the desired angle of descent with collective.	
OPCION B:	Normal approach, maintaining a slower-than-normal rate of descent with cyclic.	
OPCION C:	Shallow approach, maintaining a constant line of descent with cyclic.	
OPCION D:		

PREG20097898 (8403)	How should a quick stop be initiated?	B
OPCION A:	Raise collective pitch.	
OPCION B:	Apply aft pitch.	
OPCION C:	Decrease RPM while raising collective pitch.	
OPCION D:		

PREG20097899 (8404)	How does Vne speed vary with altitude?	C
OPCION A:	Varies directly with altitude.	
OPCION B:	Remains the same at all altitudes.	
OPCION C:	Varies inversely with altitude.	
OPCION D:		

PREG20097900 (8405)	What limits the high airspeed potential of a helicopter?	B
OPCION A:	Harmonic resonance.	
OPCION B:	Retreating blade stall.	
OPCION C:	Rotor RPM limitations.	
OPCION D:		

PREG20097901 (8406)	What corrective action can a pilot take to recover from settling with power?	C
OPCION A:	Increase forward speed and raise collective pitch.	
OPCION B:	Decrease forward speed and partially raise colective pitch.	
OPCION C:	Increase forward speed and partially lower collective pitch.	
OPCION D:		

PREG20097902 (8408)	The lift differential that exists between the advancing main rotor blade and the retreating main rotor blade is known as	B
OPCION A:	Coriolis effect.	
OPCION B:	dissymmetry of lift.	
OPCION C:	translating tendency.	
OPCION D:		

PREG20097903 (8409)	During a hover, a helicopter tends to drift in the direction of a tail rotor thrust. What is the movement called?	A
OPCION A:	Translating tendency.	
OPCION B:	Transverse flow effect.	
OPCION C:	Gyroscopic precession.	
OPCION D:		

PREG20097904 (8410)	What is the purpose of the lead-lag (drag) hinge in a three-bladed, fully articulated helicopter rotor system?	B
OPCION A:	Offset lateral instability during autorotation.	
OPCION B:	Compensate for Coriolis effect.	
OPCION C:	Provide geometric balance.	
OPCION D:		

PREG20097905 (8411)	During an autorotation (collective pitch full down), what is an increase in rotor RPM associated with?	A
OPCION A:	An increase in airflow through the rotor system.	
OPCION B:	A decrease in airflow through the rotor system.	
OPCION C:	A decrease in airspeed.	
OPCION D:		

PREG20097906 (8412)	What corrective action can a pilot take to prevent a retreating blade stall at its onset?	A
OPCION A:	Reduce collective pitch and increase rotor RPM.	

OPCION B: Increase collective pitch and increase rotor RPM.
OPCION C: Reduce collective pitch and decrease rotor RPM.
OPCION D:

PREG20097907 (8413) Which is a major warning of approaching retreating blade stall? C

OPCION A: High frequency vibration.
OPCION B: Tendency to roll opposite the stalled side of the rotor.
OPCION C: Pitchup of the nose.
OPCION D:

PREG20097908 (8417) How does high density altitude affect helicopter performance? B

OPCION A: Engine and rotor efficiency are increased.
OPCION B: Engine and rotor efficiency are reduced.
OPCION C: Engine efficiency is reduced, but rotor efficiency is increased.
OPCION D:

PREG20097909 (8418) How is the helicopter climb performance most adversely affected? A

OPCION A: Higher-than-standard temperature and high relative humidity.
OPCION B: Lower-than-standard temperature and high relative humidity.
OPCION C: Higher-than-standard temperature and low relative humidity.
OPCION D:

PREG20097910 (8420) What causes Coriolis effect? C

OPCION A: Differential thrust of rotor blades.
OPCION B: Changing angle of attack of blades during rotation.
OPCION C: Shift in center of mass of flapping blade.
OPCION D:

PREG20097911 (8421) Why are the rotor blades more efficient when operating in ground effect? A

OPCION A: Induced drag is reduced.
OPCION B: Induced angle of attack is increased.
OPCION C: Downwash velocity is accelerated.
OPCION D:

PREG20097912 (8422) What result does a level turn have on the total lift force and load factor? C

OPCION A: Lift force remains constant and the load factor increases.
OPCION B: Lift force increases and the load factor decreases.
OPCION C: Both total lift force and load factor increase.

OPCION D:

PREG20097913 (8423)	What causes a helicopter to turn?	B
OPCION A:	Centrifugal force.	
OPCION B:	Horizontal component of lift.	
OPCION C:	Greater angle of attack of rotor blades on upward side of the rotor disc.	
OPCION D:		

PREG20097914 (8424)	What is the primary purpose of the tail rotor system?	C
OPCION A:	Maintain heading during forward flight.	
OPCION B:	Act as a rudder to assist in coordinated turns.	
OPCION C:	Counteract the torque effect of the main rotor.	
OPCION D:		

PREG20097915 (8425)	Under what condition would it be necessary to cause the tail rotor to direct thrust to the left on an American-made helicopter?	B
OPCION A:	To maintain heading with a left crosswind.	
OPCION B:	To counteract the drag of the transmission during autorotation.	
OPCION C:	To execute hovering turns to the right.	
OPCION D:		

PREG20097916 (9318)	Which statement describes the term "VTOSS"?	B
OPCION A:	The takeoff safety speed in a turbine-engine powered transport category airplane.	
OPCION B:	The takeoff safety speed in a Category A helicopter.	
OPCION C:	The takeoff stall speed in the takeoff configuration in a turbo-propeller powered airplane.	
OPCION D:		