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<b>TEMA:</b> 0621	ATP-RTC - Aerodynamics - Chap.3	
<b>COD_PREG:</b> 8345	<b>PREGUNTA:</b> What effect does an increase in airspeed have on a coordinated turn while maintaining a constant angle of bank and altitude?	<b>RPTA:</b> C
<b>OPCION A:</b>	The rate of turn will decrease resulting in a decreased load factor	
<b>OPCION B:</b>	The rate of turn will increase resulting in an increased load factor	
<b>OPCION C:</b>	The rate of turn will decrease resulting in no changes in load factor	
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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
<b>OPCION A:</b>	Drag increases because of increased induced drag.	
<b>OPCION B:</b>	Drag increases because of increased parasite drag	
<b>OPCION C:</b>	Drag decreases because of lower induced drag	
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8347	What is load factor?	C
<b>OPCION A:</b>	Lift multiplied by the total weight	
<b>OPCION B:</b>	Lift subtracted from the total weight	
<b>OPCION C:</b>	Lift divided by the total weight	
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8348	What affects indicated stall speed?	A
<b>OPCION A:</b>	Weight, load factor, and power	
<b>OPCION B:</b>	Load factor, angle of attack, and power	
<b>OPCION C:</b>	Angle of attack, weight, and air density	
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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
<b>OPCION A:</b>	Lift increases and the sink rate increases	
<b>OPCION B:</b>	Lift decreases and the sink rate decreases	
<b>OPCION C:</b>	Lift decreases and the sink rate increases	
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8350	Why must the angle of attack be increased during a turn to maintain altitude?	A
<b>OPCION A:</b>	Compensate for loss of vertical component of lift	
<b>OPCION B:</b>	Increase the horizontal component of lift equal to the vertical component	
<b>OPCION C:</b>	Compensate for increase in drag	
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8351	How can the pilot increase the rate of turn and decrease the radius at the same time?	B
<b>OPCION A:</b>	Steepen the bank and increase airspeed	
<b>OPCION B:</b>	Steepen the bank and decrease airspeed	
<b>OPCION C:</b>	Shallow the bank and increase airspeed	
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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
<b>OPCION A:</b>	Rate will decrease and radius will increase	
<b>OPCION B:</b>	Rate will increase and radius will decrease	
<b>OPCION C:</b>	Rate and radius will increase	
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8353	Upon which factor does wing loading during a level coordinated turn in smooth air depend?	B
<b>OPCION A:</b>	Rate of turn	
<b>OPCION B:</b>	Angle of bank	
<b>OPCION C:</b>	True airspeed	
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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
<b>OPCION A:</b>	2 Gs.	
<b>OPCION B:</b>	3 Gs	
<b>OPCION C:</b>	9 Gs.	
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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
<b>OPCION A:</b>	Power loading.	
<b>OPCION B:</b>	Load factor.	

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<b>OPCION C:</b> Aspect ratio.	
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8365 Identify the type stability if the aircraft attitude remains in the new position after the controls have been neutralized	C
<b>OPCION A:</b> Negative longitudinal static stability	
<b>OPCION B:</b> Neutral longitudinal dynamic stability	
<b>OPCION C:</b> Neutral longitudinal static stability	

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

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8372 Identify the type stability if the aircraft attitude tends to move farther from its original position after the controls have been neutralized	A
<b>OPCION A:</b> Negative static stability	
<b>OPCION B:</b> Positive static stability	
<b>OPCION C:</b> Negative dynamic stability	

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8373 Identify the type stability if the aircraft attitude tends to return to its original position after the controls have been neutralized	B
<b>OPCION A:</b> Positive dynamic stability	
<b>OPCION B:</b> Positive static stability	
<b>OPCION C:</b> Neutral dynamic stability	

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

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

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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
<b>OPCION A:</b> the same	
<b>OPCION B:</b> two times greater	
<b>OPCION C:</b> four times greater	

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

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8396 For a given angle of bank, the load factor imposed on both the aircraft and pilot in a coordinated constant-altitude turn	C
<b>OPCION A:</b> is directly related to the airplane's gross weight	
<b>OPCION B:</b> varies with the rate of turn	
<b>OPCION C:</b> is constant	

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8397 What is the relationship between induced and parasite drag when the gross weight is increased?	B
<b>OPCION A:</b> Parasite drag increases more than induced drag	
<b>OPCION B:</b> Induced drag increases more than parasite drag.	
<b>OPCION C:</b> Both parasite and induced drag are equally increased	

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8402 How should a pilot execute a pinnacle-type approach to a rooftop heliport in conditions of high wind and turbulence?	A
<b>OPCION A:</b> Steeper-than-normal approach, maintaining the desired angle of descent with collective.	
<b>OPCION B:</b> Normal approach, maintaining a slower-than-normal rate of descent with cyclic.	

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<b>OPCION C:</b> Shallow approach, maintaining a constant line of descent with cyclic.	
8403 How should a quick stop be initiated?	B
<b>OPCION A:</b> Raise collective pitch.	
<b>OPCION B:</b> Apply aft pitch.	
<b>OPCION C:</b> Decrease RPM while raising collective pitch.	
8404 How does Vne speed vary with altitude?	C
<b>OPCION A:</b> Varies directly with altitude.	
<b>OPCION B:</b> Remains the same at all altitudes.	
<b>OPCION C:</b> Varies inversely with altitude.	
8405 What limits the high airspeed potential of a helicopter?	B
<b>OPCION A:</b> Harmonic resonance.	
<b>OPCION B:</b> Retreating blade stall.	
<b>OPCION C:</b> Rotor RPM limitations.	
8406 What corrective action can a pilot take to recover from settling with power?	C
<b>OPCION A:</b> Increase forward speed and raise collective pitch.	
<b>OPCION B:</b> Decrease forward speed and partially raise collective pitch.	
<b>OPCION C:</b> Increase forward speed and partially lower collective pitch.	
8408 The lift differential that exists between the advancing main rotor blade and the retreating main rotor blade is known as	B
<b>OPCION A:</b> Coriolis effect.	
<b>OPCION B:</b> dissymmetry of lift.	
<b>OPCION C:</b> translating tendency.	
8409 During a hover, a helicopter tends to drift in the direction of a tail rotor thrust. What is the movement called?	A
<b>OPCION A:</b> Translating tendency.	
<b>OPCION B:</b> Transverse flow effect.	
<b>OPCION C:</b> Gyroscopic precession.	
8410 What is the purpose of the lead-lag (drag) hinge in a three-bladed, fully articulated helicopter rotor system?	B
<b>OPCION A:</b> Offset lateral instability during autorotation.	
<b>OPCION B:</b> Compensate for Coriolis effect.	
<b>OPCION C:</b> Provide geometric balance.	
8411 During an autorotation (collective pitch full down), what is an increase in rotor RPM associated with?	A
<b>OPCION A:</b> An increase in airflow through the rotor system.	
<b>OPCION B:</b> A decrease in airflow through the rotor system.	
<b>OPCION C:</b> A decrease in airspeed.	
8412 What corrective action can a pilot take to prevent a retreating blade stall at its onset?	A
<b>OPCION A:</b> Reduce collective pitch and increase rotor RPM.	
<b>OPCION B:</b> Increase collective pitch and increase rotor RPM.	
<b>OPCION C:</b> Reduce collective pitch and decrease rotor RPM.	
8413 Which is a major warning of approaching retreating blade stall?	C
<b>OPCION A:</b> High frequency vibration.	
<b>OPCION B:</b> Tendency to roll opposite the stalled side of the rotor.	
<b>OPCION C:</b> Pitchup of the nose.	
8417 How does high density altitude affect helicopter performance?	B
<b>OPCION A:</b> Engine and rotor efficiency are increased.	
<b>OPCION B:</b> Engine and rotor efficiency are reduced.	
<b>OPCION C:</b> Engine efficiency is reduced, but rotor efficiency is increased.	
8418 How is the helicopter climb performance most adversely affected?	A
<b>OPCION A:</b> Higher-than-standard temperature and high relative humidity.	

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

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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.

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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.

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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.

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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.

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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.

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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.

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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.

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