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| TEMA: 0621 | ATP-RTC - Aerodynamics - Chap.3 | |
| COD_PREG: 8345 | PREGUNTA: What effect does an increase in airspeed have on a coordinated turn while maintaining a constant angle of bank and altitude? | RPTA: 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 | |
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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 |
| 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 | |
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| 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 | |
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| 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 | |
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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 |
| 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 | |
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| 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 | |
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| 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 | |
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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 |
| 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 | |
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| 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 | |
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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 |
| OPCION A: | 2 Gs. | |
| OPCION B: | 3 Gs | |
| OPCION C: | 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 |
| OPCION A: | Power loading. | |
| OPCION B: | Load factor. | |

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| OPCION C: 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 |
| OPCION A: Negative longitudinal static stability | |
| OPCION B: Neutral longitudinal dynamic stability | |
| OPCION C: 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 |
| 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 from stalling during cruising flight. | |
| OPCION C: 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 |
| OPCION A: Negative static stability | |
| OPCION B: Positive static stability | |
| OPCION C: 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 |
| OPCION A: Positive dynamic stability | |
| OPCION B: Positive static stability | |
| OPCION C: Neutral dynamic stability | |

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| 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 | |

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| 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 | |

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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 |
| OPCION A: the same | |
| OPCION B: two times greater | |
| OPCION C: 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 |
| 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 | |

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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 |
| OPCION A: is directly related to the airplane's gross weight | |
| OPCION B: varies with the rate of turn | |
| OPCION C: is constant | |

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| 8397 What is the relationship between induced and 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 | |

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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 |
| 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. | |

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| OPCION C: Shallow approach, maintaining a constant line of descent with cyclic. | |
| 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. | |
| 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. | |
| 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. | |
| 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 collective pitch. | |
| OPCION C: 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 |
| OPCION A: Coriolis effect. | |
| OPCION B: dissymmetry of lift. | |
| OPCION C: 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 |
| OPCION A: Translating tendency. | |
| OPCION B: Transverse flow effect. | |
| OPCION C: Gyroscopic precession. | |
| 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. | |
| 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. | |
| 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. | |
| 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. | |
| 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. | |
| 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.

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.

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.

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.

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.

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.

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.

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.
