T E M A: 0318 INSTRUCTOR_ADVANCED_03_AIRCRAFT SYSTEMS

COD_PREG:	P R E G U N T A:	RPTA:
6587	As a result of gyroscopic precession, it can be said that any	B
OPCION A:	pitching around the lateral axis results in a rolling moment.	
OPCION B:	yawing around the vertical axis results in a pitching moment.	
OPCION C:	pitching around the longitudinal axis results in a yawing moment.	
6588	Propeller slip is the difference between the	B
OPCION A:	geometric pitch and blade angle of the propeller.	
OPCION B:	geometric pitch and the effective pitch of the propeller.	
OPCION C:	geometric pitch and blade angle of the propeller.	
6589	The distance a propeller actually advances in one revolution is	B
OPCION A:	twisting.	
OPCION B:	effective pitch.	
OPCION C:	geometric pitch.	
6590	Blade angle of a propeller is defined as the angle between the	B
OPCION A:	angle of attack and chord line.	
OPCION B:	chord line and plane of rotation.	
OPCION C:	angle of attack and line of thrust.	
6591	A propeller rotating clockwise, as seen from the rear, creates a spiraling slipstream that tends to rotate the aircraft 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.	
6592	The reason for variations in geometric pitch (twisting) along a propeller blade is that it	B
OPCION A:	prevents the portion of the blade near the hub to stall during cruising flight.	
OPCION B:	permits a relatively constant angle of attack along its length when in cruising flight.	
OPCION C:	permits a relatively constant angle of incidence along its length when in cruising flight.	
6593	With regard to gyroscopic precession, when a force is applied at a point on the rim of a spinning disc, the resultant force acts in which direction and at what point?	A
OPCION A:	In the same direction as the applied force, 90º ahead in the plane of rotation.	
OPCION B:	In the opposite direction of the applied force, 90° ahead in the plane of rotation.	
OPCION C:	In the opposite direction of the applied force, at the point of the applied force.	
6594	The critical engine on most light multiengine airplanes with clockwise rotating propellers is the	C
OPCION A:	left engine, because of the P-factor of the left propeller.	
OPCION B:	right engine, because of the P-factor of the left propeller.	
OPCION C:	left engine, because of the P-factor of the right propeller.	
6595	On a multiengine airplane with engines which rotate clockwise, the critical engine is the	C
OPCION A:	left engine, because the right engine center of thrust is closer to the centerline of the fuselage.	
OPCION B:	right engine, because the left engine center of thrust is closer to the centerline of the fuselage.	
OPCION C:	left engine, because the right engine center of thrust is farther away from the centerline of the fuselage.	
6596	On a multiengine airplane, where the propellers rotate in the same direction, why is the loss of power on one engine more critical than the loss of power on the other engine?	C
OPCION A:	The corkscrew pattern of airflow from one propeller is less effective against the airflow from the critical engine.	
OPCION B:	The torque reaction from operation of the critical engine is more severe around the vertical axis as well as the longitudinal axis.	
OPCION C:	The asymmetric propeller thrust or P-factor results in the center of thrust from one engine being farther from the airplane centerline than the center of thrust from the other engine.	

6641 Excessively high engine temperatures, either in the air or on the ground, will — C
OPCION A: increase fuel consumption and may increase power due to the increased heat.
OPCION B: result in damage to heat-conducting hoses and warping of cylinder cooling fans.
OPCION C: cause loss of power, excessive oil consumption, and possible permanent internal engine damage.

6642 If the engine oil temperature and cylinder head temperature gauges have exceeded their normal operating range, you may have been — C
OPCION A: operating with the mixture set too rich.
OPCION B: using fuel that has a higher-than-specified fuel rating.
OPCION C: operating with too much power and with the mixture set too lean.

6643 To properly purge water from the fuel system of an aircraft equipped with fuel tank sumps and a fuel strainer quick drain, it is necessary to drain fuel from the — C
OPCION A: fuel strainer drain.
OPCION B: lowest point in the fuel system.
OPCION C: fuel strainer drain and the fuel tank sumps.

6644 If the grade of fuel used in an aircraft engine is lower than that specified, it may cause — A
OPCION A: detonation.
OPCION B: lower cylinder head temperatures.
OPCION C: a decrease in power which could overstress internal engine components.

6645 What is the main reason fuel tank vents must be open? To allow — A
OPCION A: proper air pressure within the tanks for maintaining a steady fuel flow.
OPCION B: excess fuel to drain overboard when heat expands the volume of fuel within the tanks.
OPCION C: fuel fumes to escape from the tanks, thus eliminating the possibility of the tanks exploding.

6646 Which statement is true regarding fouling of the spark plugs of an aircraft engine? — A
OPCION A: Spark plug fouling results from operating with an excessively rich mixture.
OPCION B: Carbon fouling of the spark plugs is caused primarily by operating an engine at excessively high cylinder head temperatures.
OPCION C: Excessive heat in the combustion chamber of a cylinder causes oil to form on the center electrode of a spark plug and this fouls the plug.

6647 When refueling aircraft, which precaution would be adequate for eliminating the potential hazard of static electricity? — C
OPCION A: Ensure that battery and ignition switches are off.
OPCION B: Connect a ground wire from the fuel truck to ground.
OPCION C: Connect a ground wire between the aircraft, fuel truck, fuel nozzle, and ground.

6648 As flight altitude increases, what will occur if no leaning is made with the mixture control? — C
OPCION A: The volume of air entering the carburetor decreases and the amount of fuel decreases.
OPCION B: The density of air entering the carburetor decreases and the amount of fuel increases.
OPCION C: The density of air entering the carburetor decreases and the amount of fuel remains constant.

6649 When the pilot leans the mixture control, what is being accomplished? — C
OPCION A: The volume of air entering the carburetor is being reduced.
OPCION B: The volume of air entering the carburetor is being increased.
OPCION C: The amount of fuel entering the combustion chamber is being reduced.

6650 The main purpose of the mixture control is to — B
OPCION A: increase the air supplied to the engine.
OPCION B: adjust the fuel flow to obtain the proper air/fuel ratio.
OPCION C: decrease the fuel supplied to the engine as the aircraft descends.

6651 Proper mixture control and better economy in the operation of a fuel injected engine can be achieved best by use of — B
OPCION A: a fuel-flow gauge.
OPCION B: an exhaust gas temperature indicator.
OPCION C: the recommended manifold and RPM setting for a particular altitude.

6652 Fuel/air ratio is the ratio between the — B
OPCION A: volume of fuel and volume of air entering the cylinder.
OPCION B: weight of fuel and weight of air entering the cylinder.
OPCION C: weight of fuel and weight of air entering the carburetor.

6653 Detonation in an aircraft engine is most likely to occur whenever the — B
OPCION A: fuel/air ratio is such that the mixture burns extremely slow.
OPCION B: engine is operated under conditions which cause the fuel mixture to burn instantaneously.
OPCION C: fuel being used is of a higher grade than recommended by the engine manufacturer.

6654 Detonation occurs at high power settings when the — A
OPCION A: fuel mixture explodes instead of burning progressively and evenly.
OPCION B: fuel mixture is ignited too early by red-hot carbon deposits in the cylinder.
OPCION C: intake valve opens before the previous charge of fuel has finished burning in the cylinder.

6655 Fuel injection systems, compared to carburetor systems, are generally considered to be — A
OPCION A: just as susceptible to impact icing.
OPCION B: more susceptible to evaporative icing.
OPCION C: less susceptible to icing unless visible moisture is present.

6656 The operating principle of float-type carburetors is based on the — C
OPCION A: measurement of the fuel flow into the induction system.
OPCION B: difference in air pressure at the venturi throat and the throttle valve.
OPCION C: increase in air velocity in the throat of a venturi causing a decrease in air pressure.

6657 One advantage of fuel injection systems over carburetor systems is — B
OPCION A: easier hot-engine starting.
OPCION B: better fuel distribution to the cylinders.
OPCION C: less difficulty with hot weather vapor locks during ground operations.

6658 The presence of carburetor ice in an aircraft equipped with a fixed-pitch propeller can be verified by applying carburetor heat and noting — B
OPCION A: a decrease in RPM and then a constant RPM indication.
OPCION B: a decrease in RPM and then a gradual increase in RPM.
OPCION C: a decrease in RPM and then a gradual decrease in RPM.

6659 The first indication of carburetor icing in an aircraft equipped with a constant-speed propeller would most likely be a — B
OPCION A: decrease in RPM.
OPCION B: decrease in manifold pressure.
OPCION C: rough running engine followed by loss of RPM.

6660 The first indication of carburetor ice in an aircraft with a fixed-pitch propeller is — A
OPCION A: a decrease in RPM.
OPCION B: a decrease in manifold pressure.
OPCION C: an increase in manifold pressure.

6661 The low temperature that causes carburetor ice in an engine equipped with a float-type carburetor is normally the result of the — C
OPCION A: compression of air at the carburetor venturi.
OPCION B: freezing temperature of the air entering the carburetor.
OPCION C: vaporization of fuel and expansion of air in the carburetor.

6662 Concerning carburetor icing, which statement is true? C
OPCION A: The first indication of carburetor icing, in an aircraft equipped with a fixed-pitch propeller, is a decrease in manifold pressure.
OPCION B: Carburetor icing will form in a carburetor whenever the ambient temperature is below freezing with a reduced or closed throttle setting.
OPCION C: Carburetor icing would most likely form when the air temperature is between -7 °C and 21 °C and visible moisture or high humidity is present.

6663 Running a fuel tank dry before switching tanks is not a good practice because C
OPCION A: any foreign matter in the tank will be pumped into the fuel system.
OPCION B: the engine-driven fuel pump is lubricated by fuel and operating on a dry tank may cause pump failure.
OPCION C: the engine-driven fuel pump or electric fuel boost pump draw air into the fuel system and cause vapor lock.

6664 Which statement is true regarding propeller efficiency? Propeller efficiency is the A
OPCION A: ratio of thrust horsepower to brake horsepower.
OPCION B: actual distance a propeller advances in one revolution.
OPCION C: difference between the geometric pitch of the propeller and its effective pitch.

6665 When operating an aircraft with a constant-speed propeller, which procedure places the least stress on cylinder components? B
OPCION A: When power settings are being increased, increase manifold pressure before RPM.
OPCION B: When power settings are being decreased, reduce manifold pressure before RPM.
OPCION C: Whether power settings are being increased or decreased, RPM is adjusted before manifold pressure.

6666 To absorb maximum engine power and to develop maximum thrust, a constant-speed propeller should be adjusted to a blade angle which will produce a C
OPCION A: large angle of attack and low RPM.
OPCION B: large angle of attack and high RPM.
OPCION C: small angle of attack and high RPM.

6667 During which stroke of a reciprocating engine is the gaseous mixture expanding within the cylinder? A
OPCION A: Power.
OPCION B: Intake.
OPCION C: Compression.

6668 Concerning the advantages of an aircraft generator or alternator, select the true statement. B
OPCION A: A generator always provides more electrical current than an alternator.
OPCION B: An alternator provides more electrical power at lower engine RPM than a generator.
OPCION C: A generator charges the battery during low engine RPM; therefore, the battery has less chance to become fully discharged, as often occurs with an alternator.

6669 If the ground wire between the magneto and the ignition switch becomes disconnected, the most noticeable result will be that the engine C
OPCION A: will run very rough.
OPCION B: cannot be started with the switch in the ON position.
OPCION C: cannot be shut down by turning the switch to the OFF position.

6672 Deviation error of the magnetic compass is caused by B
OPCION A: northerly turning error.
OPCION B: certain metals and electrical systems within the aircraft.
OPCION C: the difference in location of true north and magnetic north.

6675 Which statement is true about magnetic deviation of a compass? B
OPCION A: Deviation is the same for all aircraft in the same locality.
OPCION B: Deviation varies for different headings of the same aircraft.
OPCION C: Deviation is different in a given aircraft in different localities.

6676 Which instrument would be affected by excessively low pressure in the airplane's vacuum system? A
OPCION A: Heading indicator.
OPCION B: Airspeed indicator.
OPCION C: Pressure altimeter.

6677 Pitot-static system errors are generally the greatest in which range of airspeed? A
OPCION A: Low airspeed.
OPCION B: High airspeed.
OPCION C: Maneuvering speed.

6678 During power-off stalls with flaps full down, the stall occurs and the pointer on the airspeed indicator shows a speed less than the minimum limit of the white arc on the indicator. This is most probably due to C
OPCION A: a low density altitude.
OPCION B: a malfunction in the pitot-static system.
OPCION C: installation error in the pitot-static system.

6679 If a pitot tube is clogged, which instrument would be affected? B
OPCION A: Altimeter.
OPCION B: Airspeed indicator.
OPCION C: Vertical speed indicator.

6680 If the static pressure tubes are broken inside a pressurized cabin during a high-altitude flight, the altimeter would probably indicate B
OPCION A: sea level.
OPCION B: lower than actual flight altitude.
OPCION C: higher than actual flight altitude.

6681 Which statement is true about the effect of temperature changes on the indications of a sensitive altimeter? B
OPCION A: Warmer-than-standard temperatures will place the aircraft lower than the altimeter indicates.
OPCION B: Colder-than-standard temperatures will place the aircraft lower than the altimeter indicates.
OPCION C: Colder-than-standard temperatures will place the aircraft higher than the altimeter indicates.

6682 A possible result of using the emergency alternate source of static pressure inside the cabin of an unpressurized airplane is the C
OPCION A: airspeed indicator may indicate less than normal.
OPCION B: altimeter may indicate an altitude lower than the actual altitude being flown.
OPCION C: altimeter may indicate an altitude higher than the actual altitude being flown.

6683 Prior to starting the engine, the manifold pressure gauge usually indicates approximately 29" Hg. This is because the C
OPCION A: pointer on the gauge is stuck at the full-power indication.
OPCION B: throttle is closed, trapping high air pressure in the manifold.
OPCION C: pressure within the manifold is the same as atmospheric pressure.

6684 What energy source is used to drive the turbine of a turbocharged airplane? C
OPCION A: Ignition system.
OPCION B: Engine compressor.
OPCION C: Engine exhaust gases.

6685 What is the primary advantage of a constant-speed propeller? B
OPCION A: To maintain a specific engine speed.
OPCION B: To obtain a pitch setting that is suitable for each flight situation and power setting.
OPCION C: To obtain and maintain a selected pitch angle of the blades regardless of the flight situation or power setting.

6686 During climbing flight using a turbocharged airplane, the manifold pressure will remain approximately constant until the A
OPCION A: engine's critical altitude is reached.
OPCION B: airplane's service ceiling is reached.
OPCION C: waste gate is fully open and the turbine is operating at minimum speed.

6687 In addition to an added safety factor, dual ignition systems also provide — A
OPCION A: better combustion.
OPCION B: increased spark plug life.
OPCION C: shorter engine warmup periods.

6705 An electrical system failure (battery and alternator) occurs during flight. In this situation, you would — A
OPCION A: experience avionics equipment failure.
OPCION B: probably experience failure of the engine ignition system, fuel gauges, aircraft lighting system, and avionics equipment.
OPCION C: probably experience engine failure due to the loss of the engine-driven fuel pump and also experience failure of the radio equipment, lights, and all instruments that require alternating current.

6706 The amount of water absorbed in aviation fuels will — B
OPCION A: remain the same regardless of temperature changes.
OPCION B: increase as the temperature of the fuel increases.
OPCION C: increase as the temperature of the fuel decreases.

6707 What precautions should be taken with respect to aircraft oxygen systems? — C
OPCION A: Ensure that only medical oxygen has been used to replenish oxygen containers.
OPCION B: Prohibit smoking while in an aircraft equipped with a portable oxygen system.
OPCION C: Ensure that industrial oxygen has not been used to replenish the system.

6708 What type of oxygen system is most commonly found in general aviation aircraft? — B
OPCION A: Demand.
OPCION B: Continuous flow.
OPCION C: Pressure demand.

6709 What type of oxygen should be used to replenish an aircraft oxygen system? — B
OPCION A: Medical.
OPCION B: Aviation.
OPCION C: Industrial.

6710 Which statement is true regarding preheating of an aircraft during cold-weather operations? — A
OPCION A: The cockpit, as well as the engine, should be preheated.
OPCION B: The cockpit area should not be preheated with portable heaters.
OPCION C: Hot air should be blown directly at the engine through the air intakes.

6711 Crankcase breather lines of an aircraft engine should receive special attention during preflight in cold weather because they are susceptible to being clogged by — A
OPCION A: ice in the breather lines.
OPCION B: congealed oil from the crankcase.
OPCION C: moisture from the outside air which has frozen.

6712 If both the ram-air input and drain hole of the pitot system are blocked, what airspeed indication can be expected? — C
OPCION A: Decrease of indicated airspeed during a climb.
OPCION B: Zero indicated airspeed until blockage is removed.
OPCION C: No variation of indicated airspeed in level flight even if large power changes are made.

6718 What is the purpose of the rebreather bag on an oxygen mask in a continuous-flow system? — A
OPCION A: Helps to conserve oxygen.
OPCION B: Allows excess oxygen to be expelled during use.
OPCION C: Controls amount of oxygen that each individual breathes through the mask.

67361 What airspeed indicator marking identifies the maximum structural cruising speed of an aircraft? — B
OPCION A: Red radial line.
OPCION B: Upper limit of the green arc.
OPCION C: Upper limit of the yellow arc.

6737 What does the lower limit of the white arc on an airspeed indicator represent? B
OPCION A: Minimum controllable airspeed with flaps extended.
OPCION B: Power-off stall speed in a landing configuration.
OPCION C: Power-off stall speed in a specified configuration.

6738 What does the lower limit of the green arc on an airspeed indicator represent? B
OPCION A: Power-off stall speed in a landing configuration.
OPCION B: Power-off stall speed in a specified configuration.
OPCION C: Minimum controllable airspeed with gear and flaps retracted.

6739 Which airspeed is identified by color coding on an airspeed indicator? B
OPCION A: Design maneuvering speed.
OPCION B: Maximum structural cruising speed.
OPCION C: Maximum gear operation or extended speed.

6740 What is an important airspeed limitation not color coded on airspeed indicators? A
OPCION A: Maneuvering speed.
OPCION B: Never-exceed speed.
OPCION C: Maximum flaps-extended speed.