



Learjet 24/25

Self-Check Exercises



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Use of these Self-Check Exercises

SimuFlite developed these exercises to reinforce your training.

The questions parallel your course. Refer to your training guide for completion schedule of exercises.

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Self-Check 1**Powerplant Reference: Technical Manual Chapter 5L****Multiple Choice**

1. The maximum ground power unit rating for engine starts is _____.
 - a. 1,000A
 - b. 1,100A
 - c. 1,250A
 - d. 1,400A
2. The engine exhaust temperature (EGT) gage uses _____.
 - a. 26V AC
 - b. 115V AC
 - c. 28V DC
 - d. self-generated indications
3. The engine oil pressure gage in the cockpit requires what power source?
 - a. 26V DC
 - b. 115V AC
 - c. 28V AC
 - d. Is self-generated
4. The front frame of the engine contains provisions for _____.
 - a. No. 1 bearing housing
 - b. lubrication system passages
 - c. bleed air anti-ice passages
 - d. all of the above
5. The engine variable inlet guide vanes are positioned by the fuel control using _____.
 - a. fuel pressure
 - b. air pressure
 - c. RPM
 - d. oil pressure

6. The compressor disks mount to a single shaft supported by the No. _____ and No. _____ engine bearings.
 - a. 1; 2
 - b. 2; 3
 - c. 3; 4
7. The No. 3 engine bearing is located in the engine _____ section.
 - a. compressor
 - b. combustion
 - c. turbine
 - d. none of the above
8. What two engine parameters are measured aft of the turbine section?
 - a. EGT
 - b. EPR
 - c. RPM
 - d. Both a and b
9. The second radial red line on the oil pressure gage indicates the _____ pressure.
 - a. minimum operating oil
 - b. maximum normal operating
 - c. maximum allowable oil
 - d. none of the above
10. The fuel overspeed governor restricts fuel flow to the engine if RPM exceeds _____ $\pm 0.5\%$.
 - a. 100.1
 - b. 103.5
 - c. 105.3
 - d. 106.5
11. The throttle lever ignition switch operates from above the cutoff throttle lever position to the _____ % RPM position.
 - a. 40
 - b. 50
 - c. 60
 - d. 70

12. When the landing gear is up and locked, the throttle landing gear switch activates at approximately _____.
 - a. 44
 - b. 52
 - c. 68
 - d. 72
13. Which of the following conditions must be followed when using aviation gas in the fuel mixture?
 - a. Do not take off with fuel temperature lower than -54°F
 - b. Restrict aircraft to below 15,000 ft
 - c. Both JET PUMP and STANDBY PUMPS switches must be in ON
 - d. All of the above
14. Hydraulic pressure applied to the deploy/stow sides of a thrust reverser hydraulic actuator piston is controlled by a selector valve, which is activated _____.
 - a. mechanically
 - b. pneumatically
 - c. hydraulically
 - d. by an electrical solenoid
15. The optional Dee Howard thrust reverser system is available for _____.
 - a. extra deceleration during landing roll on short runways
 - b. speed control on icy runways
 - c. additional runway braking
 - d. all of the above
16. The engine inlet guide vanes completely open and bleed air ports close to provide maximum airflow through the engine at approximately _____% RPM.
 - a. 42 to 59
 - b. 59 to 70
 - c. 79 to 92
 - d. 92 to 103

17. For which of the following does the engine eighth-stage bleed air port provide air?
 - a. Anti-icing
 - b. Air conditioning
 - c. Cabin and hydraulic tank pressurization
 - d. Vacuum pressure to jet pump
 - e. All of the above
18. The accessory section provides drive pads for which of the following?
 - a. Starter/generator
 - b. Overspeed governor
 - c. Fuel pump
 - d. Fuel control
 - e. Hydraulic pump
 - f. Oil pump/tachometer generator
 - g. All of the above
19. If engine oil pressure is at _____ PSI in either engine, a switch closes to illuminate the LO OIL PRESS (or OIL PRESS) annunciator.
 - a. 5
 - b. 10
 - c. 12
 - d. 15
20. The target-type thrust reverser is _____ controlled and hydraulically actuated.
 - a. pneumatically
 - b. electrically
 - c. hydraulically
 - d. mechanically
21. The thrust reverser hydraulic accumulator must have a dry nitrogen precharge of _____ \pm 50 PSI.
 - a. 60
 - b. 160
 - c. 600
 - d. 760

True or False

1. ____ In the engine variable guide vane system, each bleed air valve has two sets of ports (6 right and 6 left for a total of 12) for the No. 3, 4, and 5 compressor stages.
2. ____ The inner casing of the combustor section contains the No. 4 bearing housing.
3. ____ Eight EGT probes extend into the exhaust stream at varying depths to provide an average exhaust gas temperature reading.
4. ____ The engine turbine rotor assembly consists of three turbine wheels, an inner seal, and a torque ring assembly.
5. ____ The Left and Right Main DC buses power the left and right thrust reversers; if one bus fails, the other powers the opposite thrust reverser's emergency stow capability.
6. ____ The thrust reversers normally are extended by positioning the L/R NORM/OFF switch to L/R NORM.
7. ____ Once the thrust reversers fully deploy, the amber UNSAFE annunciator stays ON and the white DEPL annunciators illuminate.
8. ____ The squat switches on the left and right main landing gear prevent the thrust reversers from extending in flight.

Fire Protection Reference: Technical Manual Chapter 5D**Multiple Choice**

1. Electrical power for the fire detection and extinguishing system is supplied by _____.
 - a. the Essential DC buses
 - b. the Hot Battery buses
 - c. a self-generated fire detector box
 - d. the volt AC system
2. A continuous fire detection sensor loop in each engine nacelle consists of _____ element(s).
 - a. one
 - b. two
 - c. three
 - d. four
3. The FIRE DET TEST switch is located on the _____.
 - a. master warning panel
 - b. center instrument panel
 - c. fire detection control box
 - d. test panel forward of throttles
4. The fire extinguishing agent used in both fire bottles is _____.
 - a. Freon
 - b. Halon
 - c. CO₂
 - d. none of the above
5. If a fire bottle internal pressure exceeds design limits, a thermal protection valve ports the bottle contents overboard and (but) _____.
 - a. blows the red discharge indicator
 - b. blows the yellow discharge indicator
 - c. illuminates the ARMED switchlight
 - d. does not provide an indication of the discharge

6. Immediately after a fire bottle has been discharged, the ARMED switchlight _____.
 - a. extinguishes
 - b. flashes
 - c. remains illuminated
 - d. dims to half normal brightness
7. Which of the following does not occur as a result of an inflight fire situation where the throttle is moved to CUTOFF and the FIRE switchlight is pushed?
 - a. The affected engine's main fuel and hydraulic shutoff valves are closed
 - b. Both fire bottles are armed
 - c. The two ARMED switchlights illuminate
 - d. The passenger seat belt/smoking light illuminates
8. During the exterior preflight, check the pressure gage on each engine fire extinguisher bottle for an indication of _____ PSI at 70°F.
 - a. 300
 - b. 400
 - c. 500
 - d. 600
9. Which of the following is not verified as a function of the FIRE DET TEST switch?
 - a. Sensor loop continuity
 - b. Power to the passenger seat belt/smoking light
 - c. Operative control box circuitry
 - d. Power to the switchlights
10. The fire detection control box monitors the system loops and provides an appropriate signal if the a loop's resistance _____.
 - a. increases
 - b. decreases
 - c. fluctuates by 8%

11. Provisions for discharging either fire bottle into either engine are made by _____.
 - a. backup electrical wiring
 - b. a computer-monitored bottle selector
 - c. cross-plumbing
 - d. none of the above
12. The fire extinguisher cartridge requires _____ electrical power.
 - a. Left Main DC bus
 - b. Right Main DC bus
 - c. Avionics AC bus
 - d. Essential DC bus
13. During the preflight of the cabin portable fire extinguisher, check for _____.
 - a. proper security
 - b. operating pressure
 - c. placard expiration date
 - d. trigger lockwire
 - e. all of the above

True or False

1. _____ The AC powered fire detection system identifies a fire or over-heat condition in the engine nacelles and provides a visual warning in the cockpit.
2. _____ The guarded FIRE switchlights have a warning and extinguishing function.
3. _____ Once the FIRE switchlight is pressed, the ARMED switchlight illuminates even if the fire extinguisher bottles have been previously discharged.

Fuel Reference: Technical Manual Chapter 5F**Multiple Choice**

1. Avgas _____.
 - a. cannot be used
 - b. cannot be used if the mixture is more than 50% by volume
 - c. can be used if both jet pumps and standby pumps are on and the pumps are operating
 - d. should only be used when the fuel temperature is below 50°C
2. In regards to the fuel panel, what switches must be in the off or closed position prior to turning off the aircraft battery switches?
 - a. Standby pumps and the crossflow switch only
 - b. Crossflow switch, fuel transfer switch and, on some models, the fuselage valve switch
 - c. The crossflow switch, the standby pumps and the fire button
 - d. The jet pump switches, the crossflow switch and the standby pumps
3. A green light on the fuel panel indicates that _____.
 - a. the fuselage tank is being filled
 - b. the fuselage tank is full
 - c. the standby boost pumps are on and operating
 - d. the transfer valve is open
4. Prist must be added to the fuel when using _____.
 - a. Jet A
 - b. Avgas
 - c. Jet B
 - d. all of the above
5. The fuel quantity gage in the pedestal is calibrated in increments of 100 to show _____ of fuel (either total fuel quantity or quantity of a specific tank).
 - a. gallons
 - b. liters
 - c. imperial gallons
 - d. pounds

6. The fuel quantity selector is a _____ position switch.
 - a. 4
 - b. 5
 - c. 6
 - d. 8
7. What does the fuel counter indicate?
 - a. Fuel to be used
 - b. Fuel remaining in tank
 - c. Pounds of fuel used by engine, that fuel not jettisoned
 - d. Gallons of fuel used
8. What does an illuminated amber light next to the XFER/FILL or CROSSFLOW switches indicate?
 - a. Valve failure
 - b. Disagreement between switch and valve position
 - c. Valve is open
 - d. Valve is closed
9. What is the indication for a full fuselage tank?
 - a. A green FULL annunciator illuminated on the glareshield
 - b. A green light illuminated next to the fuel quantity gage
 - c. A red light flashing on the glareshield
 - d. A green FULL light illuminated next to the XFER/FILL switch
10. What warning annunciator illuminates if a primary fuel filter element clogs?
 - a. FUEL FILTER
 - b. BYPASS
 - c. L/R FUEL PRESS
 - d. ENG SYNC
11. The crossflow valve is controlled by which of the following?
 - a. Crossflow switch
 - b. Fill/transfer switch
 - c. Fuselage valve switch (if installed)
 - d. All of the above

12. Where are the fuel filler ports on the Learjet 24/25?
 - a. On each tip tank
 - b. Inboard of center on both wings
 - c. Near the forward wing root on the right wing and near the center on the left wing
 - d. Outboard of center on both wings
13. With fuel jettison installed, where are the jettison valves located?
 - a. On each tip tank
 - b. On the lower fuselage centerline
 - c. Just forward of the tailcone
 - d. Just aft of the nosecone
14. Which bus provides 28V DC power to the fuel quantity gage through a CB in the cockpit?
 - a. Left Essential bus
 - b. Right Essential bus
 - c. Left Main bus
 - d. Right Main bus

True or False

1. ____ The low pressure filters are in the main fuel line after the wing tank prior to the engine shutoff valve.
2. ____ The JET PUMP switch electrically controls the motive flow valve to route high pressure fuel to the associated tip and wing tank jet pumps.
3. ____ When transferring fuel, the 5.0 PSI switch prevents over-pressurization of the wing tank.
4. ____ Ram air pressure vents directly to the wing tanks.
5. ____ The ram air scoop is a flush-mounted under-wing airscoop.
6. ____ The usable tank capacities are based on a fuel density of 6.7 lbs per gallon.
7. ____ The jet pump has two moving parts.
8. ____ With the CROSSFLOW switch in OPEN, fuel can transfer between the wing tanks.

Self-Check 2**Hydraulics/
Landing Gear/
Brakes****Reference: Technical Manual Chapters 5G and 5I****Multiple Choice**

1. Normal hydraulic system pressure is ____PSI.
 - a. 1,500
 - b. 1,750
 - c. 1,800
 - d. 3,000
2. The auxiliary hydraulic pump has a duty cycle of _____.
 - a. 3 minutes on, 20 minutes off
 - b. 5 minutes on, 15 minutes off
 - c. 10 minutes on, 20 minutes off
 - d. 30 seconds on, 20 minutes off
3. The hydraulic shutoff valves are controlled by _____.
 - a. the battery switches
 - b. the fire switchlight
 - c. the arm buttons
 - d. the auxiliary hydraulic pump switch
4. After takeoff and during gear retraction, the brakes _____.
 - a. must not be applied due to the wheel torque
 - b. should be applied by the pilot to stop the wheel rotation
 - c. should be applied to enable the disc to cool
 - d. are automatically applied to stop the wheel rotation
5. The nosewheel steering requires what voltages?
 - a. 28V DC
 - b. 115V AC
 - c. 28V DC and 26V AC
 - d. 28V DC and 115V AC

6. What precaution should be taken in regard to nosewheel steering while towing the aircraft?
 - a. Do not turn the nose gear more than 45°
 - b. No inverters or AC power on
 - c. No DC power or pull the steering DC circuit breaker
 - d. No DC power or pull the nose steering AC circuit breaker
7. What is capacity of the hydraulic reservoir?
 - a. 1 gallon
 - b. 1.5 gallons
 - c. 1.7 gallons
 - d. 1.9 gallons
8. When hydraulic pressure reads less than normal system pressure, how much fluid remains in the hydraulic reservoir if both engine-driven pumps are working?
 - a. 0 gallon
 - b. 0.4 gallon
 - c. 0.6 gallon
 - d. 1 gallon
9. The hydraulic system in the aircraft normally provides a constant system pressure of _____ PSI.
 - a. 1,300 or 1,400
 - b. 1,400 or 1,200
 - c. 1,450 or 1,500
 - d. 3,000 or 2,500
10. The air precharge on the hydraulic accumulator is _____ PSI.
 - a. 500
 - b. 750
 - c. 850
 - d. 1,000
11. What CB removes power from the squat switch relay box?
 - a. SQUAT SW CB on the Right Main bus
 - b. AIR SW CB on the Left Main bus
 - c. AIR SW CB on the Right Main bus
 - d. SQUAT SW CB on the Left Main bus

12. Chine on the nose gear tire permits takeoffs with up to _____ inch of water or slush on the runway.
 - a. 1
 - b. 3/4
 - c. 1/2
 - d. 1/4
13. With landing gear extended normally, what lights are illuminated on the landing gear panel?
 - a. Three green LOCKED DN
 - b. Three green LOCKED DN and two red UNSAFE
 - c. Three green LOCKED DN and three red UNSAFE
 - d. One green LOCKED DN and two red UNSAFE
14. With landing gear extended abnormally, what lights are illuminated on the landing gear panel?
 - a. Three green LOCKED DN
 - b. Three green LOCKED DN and two red UNSAFE
 - c. Three green LOCKED DN and three red UNSAFE
 - d. One green LOCKED DN and two red UNSAFE
15. The pressurized hydraulic reservoir provides a positive fluid flow to the engine-driven pumps and prevents _____.
 - a. reverse flow
 - b. pump cavitation
 - c. the pumps from seizing
 - d. fluid foaming
16. The auxiliary hydraulic pump maintains sufficient pressure to support which of the following systems?
 - a. Flap system
 - b. Spoiler system
 - c. Brake system
 - d. Thrust reverser system

17. The main landing gear normally is held in the up position by _____.
 - a. mechanical uplocks
 - b. hydraulic pressure
 - c. pneumatic pressure
 - d. electromagnets
18. When the striker makes contact during gear extension, which gear down safety switch(es) send electrical signals to the anti-skid system?
 - a. Left main
 - b. Right main
 - c. Nose wheel
 - d. All of the above
19. What stops main gear wheel rotation during landing gear retraction?
 - a. An integral brake snubber
 - b. Toe brake pressure applied by either pilot
 - c. The tires striking asbestos resistance pads in each wheel well
 - d. None of the above

True or False

1. _____ Pressing either FIRE switchlight electrically shuts the corresponding firewall shutoff valves.
2. _____ The hydraulic accumulator in the aft equipment bay assists the reservoir in providing a constant supply of fluid to the engine driven pump.
3. _____ The hydraulic pressure indicator receives an electric signal from the transmitter on the engine.
4. _____ Either landing gear squat switch can send a signal to place the squat switch relay box in air mode.
5. _____ When the inboard main gear doors reach 3/4 open, a signal is sent to the down solenoid of the gear actuator.

**Electrical/
Lighting****Reference: Technical Manual Chapter 5C****Multiple Choice**

1. DC system voltage is measured on the _____ bus.
 - a. Left Main
 - b. Battery Charging
 - c. Left Generator
 - d. Essential DC
2. Two solid state static inverters supply _____ volt-amps to a distribution system.
 - a. 200
 - b. 500
 - c. 1,000
 - d. 1,500
3. The emergency battery supplies _____ V DC.
 - a. 12
 - b. 25
 - c. 28
 - d. 30
4. The Learjet 24/25 uses two starter/generators that are controlled at _____ V DC.
 - a. 12
 - b. 24
 - c. 28
 - d. 30
5. The voltmeter indicates the _____ bus voltage.
 - a. Battery
 - b. L/R Hot Battery
 - c. Battery Charging
 - d. L/R Generator
6. Battery relay(s) require a minimum of _____ volts before they can close.
 - a. 4
 - b. 6
 - c. 12
 - d. 16

7. The Battery Charging bus receives power from the _____.
 - a. battery(ies)
 - b. L/R Hot Battery buses
 - c. L/R Main Power buses
 - d. L/R Essential buses
8. Which of the following components supply(ies) power to the Battery bus?
 - a. Batteries
 - b. External power system
 - c. Operating generators
 - d. All of the above
9. The L/R Essential buses receive power through circuit breakers from the _____ bus(es).
 - a. Battery
 - b. Battery Charging
 - c. L/R Generator
 - d. L/R Main Power
10. The L/R Main Power buses receive power through current limiters from the _____ buses.
 - a. Battery
 - b. L/R Hot Battery
 - c. Battery Charging
 - d. L/R Generator
11. Battery temperature sensing and overtemperature warning systems are required by CFR 25.1353 on aircraft with _____ batteries.
 - a. nickel-cadmium (ni-cad)
 - b. lead acid
 - c. either nickel-cadmium or lead acid
 - d. any type of
12. After connecting the GPU, turn a(n) _____ switch on to energize the external power control relay.
 - a. external power
 - b. generator
 - c. battery
 - d. any of the above

13. The green arc range on the AC voltmeter is _____ to _____ volts.
 - a. 28; 65
 - b. 65; 110
 - c. 65;130
 - d. 110;130
14. The APU overvoltage sensor is set at _____ $\pm 1V$ DC.
 - a. 24
 - b. 28
 - c. 30
 - d. 32
15. What can cause an inverter caution annunciator to illuminate?
 - a. Inverter CB
 - b. Inverter switch
 - c. AC bus CB
 - d. Inverter failure
 - e. All of the above
16. The primary inverter receives power from which bus?
 - a. Left Generator
 - b. Right Generator
 - c. Battery Charging
 - d. Right Main

True or False

1. _____ Power from the starter/generators flows to the voltage regulators and the reverse current diode.
2. _____ The starter/generator and DC electrical system are controlled by the generator control box.
3. _____ Placing the GEN/OFF/START switch to START closes the motive flow valve and turns on the standby pump.
4. _____ Regardless of the emergency battery switch position, the emergency battery charges if the normal electrical system is operating.
5. _____ The Left/Right Hot Battery bus receives power from the Battery bus.
6. _____ DC power flows from the respective Generator bus to the overload sensor through the inverter power relay, then to the inverter.

Avionics Reference: Technical Manual Chapter 5B**Multiple Choice**

1. The autopilot altitude controller or air data sensor and cabin pressurization sensor receive _____.
 - a. ram air pressure
 - b. static defect correction
 - c. static pressure
2. The cabin pressurization module receives static pressure from the _____ static port.
 - a. left
 - b. right
 - c. shoulder
 - d. right aft
3. The static defect correction (SDC) module and pilot's Mach/airspeed indicator receive pitot pressure from the _____.
 - a. left static port
 - b. left pitot tube
 - c. right static port
 - d. right pitot tube
4. When the ALT INSTR STATIC VALVE is in the OPEN position, the pilot's flight instruments receive static pressure from the static port located on the _____.
 - a. left shoulder of the aircraft
 - b. right shoulder of the aircraft
 - c. forward bulkhead
 - d. aft bulkhead
 - e. right side aft of the right static port
5. The vertical speed indicators display instantaneous vertical speed because of the input received from the _____.
 - a. accelerometers
 - b. respective static system
 - c. static defect correction module
 - d. alternate static port

6. The altitude alerter can be set to desired altitudes from _____ to _____ ft MSL.
 - a. -1,000; 55,000
 - b. 0; 55,000
 - c. 700; 50,000
 - d. 1,200; 50,000
7. If the cockpit voice recorder still receives power after a forced landing, _____.
 - a. the tape will erase itself
 - b. the unit stops after a 5G force is applied
 - c. a low oil pressure switch interrupts power
8. The Mach/airspeed indicator compensates for changes in _____.
 - a. pressure altitude
 - b. aircraft altitude
 - c. true airspeed
 - d. groundspeed
9. Encoding altimeters use a rotating wheel and optical sensor to convert an altitude signal and send it to the _____.
 - a. vertical speed indicator
 - b. cockpit voice recorder
 - c. transponder
 - d. altimeter
10. The copilot's pitot/static system contains _____ Mach warning/over-speed switch(es).
 - a. 1
 - b. 2
 - c. 3
 - d. 4
11. The radio altimeter may fluctuate as much as _____ feet when taxiing over ice or snow.
 - a. 10
 - b. 20
 - c. 40
 - d. 50

12. Avoid operating the radar within _____ feet of refueling aircraft.
 - a. 30
 - b. 150
 - c. 300
 - d. 500
13. The VG ERECT switch provides higher voltage to _____.
 - a. align the vertical gyro at a faster rate
 - b. cage the vertical gyro
 - c. release the vertical gyro from its cage
 - d. test and erect the vertical gyro during Before Takeoff checklist
14. How does adjusting the altimeter to local barometric pressure affect the encoded altitude information?
 - a. It shifts the information downward by 15 ft.
 - b. It shifts the information up by 50 ft.
 - c. It shifts the information up by 500 ft.
 - d. It has no effect

True or False

1. _____ All static ports are heated.
2. _____ The shoulder static ports supply static pressure to the autopilot altitude controller and pilot's stall warning altitude switch.
3. _____ When the SLAVE/FREE switch is in SLAVE, the directional gyro is corrected manually with the L/R switch.
4. _____ Pressing the autopilot ENGAGE button, with no other mode active, activates the altitude hold function.

Self-Check 3**Pneumatics/
Air Conditioning/
Pressurization****Reference: Technical Manual Chapter 5K****Multiple Choice**

1. The Freon system _____.
 - a. will not operate on a single battery
 - b. will not operate on the ground
 - c. can be on during engine start
 - d. should be off during start
2. The “H” valve _____.
 - a. controls cabin temperature
 - b. controls cabin pressure
 - c. supplies defog air to the windshield
 - d. controls the air coming in from each engine
3. What electrical power is required for effective manual pressurization control?
 - a. 26V AC
 - b. 115V AC
 - c. 28V DC
 - d. None of the above
4. On the aircraft, the cabin heat is controlled by what means?
 - a. 26V AC
 - b. 115V AC
 - c. 28V DC
 - d. Regulated air pressure
5. The flow control valve is controlled from the cockpit. What switch controls the flow control valve?
 - a. Flow control valve switch
 - b. Cabin air switch
 - c. Air bleed switch
 - d. None of the above

6. The oxygen system gage is a direct reading gage. With the bottle regulator valve closed, the gage will read _____.
 - a. system pressure
 - b. bottle pressure
 - c. the regulator pressure
 - d. the pressure at the pilot/copilot masks

450 Pressurization System only

7. By using the manual cabin altitude control valve (cherry picker), the cabin exhaust (outflow) valve is opened by _____ pressure.
 - a. static port
 - b. vacuum port
 - c. spring
 - d. mechanical
8. The jet pump/vacuum regulator uses a venturi and _____ to create a vacuum source for use in the pressurization control system.
 - a. pitot/static pressure
 - b. vacuum pump pressure
 - c. bleed air
 - d. none of the above
9. The RATE selector knob controls the rate of change in cabin pressure between _____ minimum and _____ maximum.
 - a. 0; 10,000 fpm
 - b. 250; 2,500 fpm
 - c. 500; 6,000 fpm
 - d. 2; 9 PSID
10. To achieve a normal rate of cabin climb or descent (600 fpm), set the rate selector to _____.
 - a. ON
 - b. OFF
 - c. 8 to 9 o'clock
 - d. NORMAL CLIMB

11. The cabin safety valve differential pressure controller acts as a secondary controller and is set at _____ PSI.
 - a. 2.2
 - b. 5.2
 - c. 7.2
 - d. 9.2
12. Setting the AUTO/MAN switch to MAN energizes a normally _____ valve to _____, eliminating the mini-controller from the system.
 - a. closed; open
 - b. open; closed
 - c. cracked; open
 - d. cracked; closed
13. What gages monitor the cabin pressurization system?
 - a. Cabin altitude
 - b. Cabin PSID
 - c. Cabin VVI
 - d. All of the above
14. The outside (larger) pointer on the cabin differential pressure gage indicates _____.
 - a. destination altitude
 - b. desired rate of change
 - c. aircraft altitude
 - d. cabin pressure altitude
15. The cabin air exhaust control (outflow) valve maintains a maximum differential pressure of _____PSI.
 - a. 7.0
 - b. 8.1
 - c. 8.7
 - d. 9.2
16. How is the hot air bypass valve (H-valve) controlled?
 - a. Electrically
 - b. Pneumatically
 - c. Mechanically
 - d. Hydraulically

True or False

1. ____ The AUTO/MAN pressurization switch requires AC power to select automatic or manual mode.
2. ____ The cabin differential pressure limiter serves as a backup to the cabin altitude controller to limit maximum PSID.
3. ____ The cabin altitude limiter opens the safety valve to limit cabin altitude if the differential relief valve fails.
4. ____ If cabin altitude increases to 10,000 \pm 550 ft in pressurization mode, the cabin pressurization aneroid switch completes a power circuit to switch to manual control and thus prevent any further increase in cabin altitude.

510 Pressurization System only

1. Placing a bleed air switch to EMER de-energizes the emergency valve to the ____ position.
 - a. emergency
 - b. closed
 - c. open normal
 - d. none of the above
2. The flow control valve/venturi receives power from the Left Essential bus through the ____ switch marked OFF/ON.
 - a. CAB AIR
 - b. AUTO/MAN
 - c. BLEED AIR
 - d. none of the above
3. The COLD/HOT indicator on the far right-hand side of the copilot's main instrument panel indicates ____.
 - a. cabin temperature sensor feedback
 - b. bleed air manifold temperature
 - c. H-valve position
 - d. none of the above
4. The red CAB AIR annunciator illuminates if bleed air routed to the cabin reaches ____ \pm 5°F.
 - a. 250
 - b. 350
 - c. 395
 - d. 455

5. The pneumatic system consists of two basically independent systems, one for each engine, connected to a common distribution point, the _____.
 - a. heat exchanger
 - b. water separator
 - c. cabin distribution duct
 - d. bleed air manifold
6. The hot air bypass valve (H-valve) is controlled _____.
 - a. electrically
 - b. pneumatically
 - c. hydraulically
 - d. thermally
7. The temperature sensor's blower is inoperative when either the cooling system or the auxiliary cabin heater is _____.
 - a. off
 - b. on
 - c. in standby
 - d. either off or on
8. The cabin air exhaust control (outflow) valve maintains a maximum differential pressure of _____ PSI.
 - a. 6.5
 - b. 7.2
 - c. 8.9
 - d. 9.2

**Ice and Rain
Protection****Reference: Technical Manual Chapter 5H
Multiple Choice**

1. Methanol deicing fluid is provided for _____.
 - a. the radome only
 - b. the radome and left windshield only
 - c. both windshields
 - d. the pilot's windshield and nacelles
2. Nacelle heat system correct operation is indicated by _____.
 - a. the nacelle temperature gage
 - b. the green nacelle heat light is on
 - c. the amber engine ice light is off
 - d. pressurization pulsing
3. The nacelle anti-ice valve (is) _____.
 - a. fail-safe closed
 - b. requires 28V DC to open
 - c. pneumatically controlled and operated
 - d. requires 28V DC to close
4. The shoulder static ports are heated by _____.
 - a. the pitot heat switch
 - b. the wing and stabilizer heat switch
 - c. are hot-wired with the battery switches on through the pitot heat CB
 - d. the shoulder port heat switch
5. The anti-ice fluid used in the Learjet is _____.
 - a. methyl alcohol
 - b. ethyl alcohol
 - c. wood alcohol
 - d. glycoline
6. During daylight operations, check for ice _____.
 - a. on the lower corners of the windshield
 - b. using the windshield ice detection light
 - c. on the nose of each tip tank
 - d. all of the above

7. Which of the windshield ice detector lights shine(s) on an area cleared by the windshield anti-ice system?
 - a. Pilot's
 - b. Copilot's
 - c. Both
8. Which of the windshield ice detector lights shine(s) on an area outside the area cleared by the windshield anti-ice system?
 - a. Pilot's
 - b. Copilot's
 - c. Neither
9. Nacelle lip anti-ice protection is provided by (the) _____.
 - a. oil heat exchanger
 - b. bleed air
 - c. electric heating elements
 - d. alcohol de-icer
10. The WING TEMP indicator provides an indication of the temperature of the _____.
 - a. wing leading edge diffuser
 - b. bleed air exiting through the scupper
 - c. bleed air entering through the diffuser
 - d. wing leading edge skin surface
11. Which of the following current drains reflects proper operation of the horizontal stabilizer anti-ice system?
 - a. 15A in 60-second cycles
 - b. 60A continuously
 - c. 60A in 15-second cycles
 - d. 15A continuously
12. Which of the following completes the relay circuit to remove power from the defog pressure regulator valve in the air?
 - a. High-limit thermostats
 - b. Low-limit thermostats
 - c. AUTO/MAN switch

13. If the windshield bleed air anti-ice system is allowed to operate in AUTO mode on the ground, the indications to the crew are _____.
 - a. cycling green and red annunciators
 - b. green annunciator extinguishes; red annunciator illuminates
 - c. both green and red annunciators illuminate constantly
 - d. only the red annunciator illuminates
14. The windshield ice detector lights illuminate areas about _____ inches in diameter.
 - a. 0.5
 - b. 1.0
 - c. 1.5
 - d. 2.0
15. While in icing conditions, maintain a minimum RPM of _____ percent to ensure adequate bleed air for engine anti-ice.
 - a. 65
 - b. 70
 - c. 80
 - d. 90

True or False

1. _____ Because the anti-ice systems also remove ice, they are considered deice systems.
2. _____ When the aircraft is in icing conditions, the ICE DETECT annunciator is still illuminated on the copilot side.
3. _____ Normally, the wing inspection light receives power from the baggage compartment emergency lighting system.
4. _____ The wing anti-ice pressure regulator controls downstream bleed air pressure at 6 PSI.
5. _____ After any work is performed on or near the horizontal stabilizer anti-ice system, the system must be operationally tested before takeoff.

Self-Check 4

Flight Controls

Reference: Technical Manual Chapter 5E

Multiple Choice

1. With the autopilot engaged, the horizontal stabilizer is positioned by the _____.
 - a. primary pitch motor
 - b. Mach trim system
 - c. control column
 - d. secondary pitch trim motor
2. Aileron balance tabs _____.
 - a. hold an established roll trim
 - b. prevent roll while the autopilot is engaged
 - c. reduce the forces required to position the aileron
 - d. balance the forces exerted by the ailerons
3. Full travel for the elevators is _____.
 - a. 15° up and down
 - b. 20° up and 10° down
 - c. 20° up and down
4. The button in the center of the yoke trim switch must be pressed before making an adjustment because it _____.
 - a. disconnects the autopilot
 - b. reduces the risk of inadvertent operation
 - c. supplies ground to the trim system
 - d. stores the roll and pitch attitude before the maneuver
5. The elevator is positioned _____.
 - a. hydraulically by the actuator
 - b. electrically by the autopilot servo
 - c. mechanically by the control column
 - d. hydraulically by the control column
 - e. both b and c are correct

6. The rudder controls the aircraft about the _____ axis.
 - a. lateral (roll axis)
 - b. directional (diagonal axis)
 - c. longitudinal (pitch axis)
 - d. vertical (yaw axis)
7. The horizontal stabilizer, in order to provide pitch trim, is positioned by _____.
 - a. one motor and one actuator
 - b. one motor and two actuators
 - c. two motors and two actuators
 - d. two motors and one actuator
8. The normal pitch trim system operates at _____.
 - a. high rate with flaps fully retracted
 - b. low rate with flaps extended beyond 3°
 - c. high rate with flaps extended beyond 3°
 - d. low rate with flaps fully retracted
9. One yaw damper should be engaged for all flight conditions except _____.
 - a. takeoff
 - b. landing touchdown
 - c. while trimming the rudder
 - d. while trimming the horizontal stabilizer
10. With the flaps extended, which of the following is (are) increased?
 - a. Airspeed
 - b. Lift
 - c. Landing Distance
 - d. Stalling speed
 - e. Drag

11. With the flaps extended, which of the following is (are) reduced?
 - a. V_{REF}
 - b. Lift
 - c. Landing distance
 - d. Stalling speed
 - e. Drag
12. The rudder trim tab is positioned by the _____ switch at the aft edge of the center pedestal.
 - a. PITCH TRIM
 - b. YAW TRIM
 - c. ELEV TRIM
 - d. none of the above
13. The control wheel master switch _____ pitch trim operation.
 - a. interrupts
 - b. initiates
 - c. accelerates
 - d. decelerates
14. The flaps must be _____ to verify in-motion audio clicker operation during the pitch trim check before flight.
 - a. retracted
 - b. extended
 - c. overextended
 - d. any of the above
15. Flap travel from full up to full down take approximately _____ seconds.
 - a. 4
 - b. 6
 - c. 10
 - d. 6 to 10 seconds, depending on airspeed
16. The secondary flight controls (i.e., flaps and spoilers) are electrically controlled and _____ actuated.
 - a. hydraulically
 - b. electrically
 - c. pneumatically
 - d. mechanically

17. Maximum extension of the spoilers is _____ degrees.
 - a. 35
 - b. 40
 - c. 47
 - d. 52
18. Test the Mach/overspeed warning by setting the BATTERY, Mach TEST, and _____ switches to ON.
 - a. R STALL WARNING
 - b. L STALL WARNING
 - c. EXT PWR
 - d. EMER BAT
19. Aileron full travel is _____ degrees up and down.
 - a. 18
 - b. 22
 - c. 26
 - d. 47
20. Concerning inputs from the 4-way trim switches, which one has authority?
 - a. The first switch operated overrides the second switch operated
 - b. The last switch operated overrides the first switch operated
 - c. The pilot's switch overrides the copilot's switch
 - d. The copilot's switch overrides the pilot's switch

True or False

1. _____ The yaw dampers are independent systems, but can only be operated one at a time.
2. _____ As long as one stall warning system is operating, the aircraft may be dispatched.

Self-Check 5

Powerplant Abnormal and Emergency Procedures

**Reference: Technical Manual Chapter 5L,
Operating Handbook E-Pages**

Multiple Choice

1. The memory items in correct order for the ABORT INADVERTENT THRUST REVERSER DEPLOYMENT OR ENGINE FAILURE DURING TAKEOFF BELOW V_1 procedure are:
 1. Wheel Brakes – APPLY
 2. Spoilers – EXTEND
 3. Thrust Levers – IDLE
 4. Thrust Reverser or Drag Chute – DEPLOY
 - a. 1, 2, 3, 4
 - b. 1, 2, 4, 3
 - c. 1, 3, 2, 4
 - d. 3, 1, 2, 4
 - e. 2, 1, 3, 4
 - f. 2, 3, 2, 4
2. The memory items in correct order for the ENGINE FAILURE DURING TAKEOFF ABOVE V_1 procedure are:
 1. Accelerate To V_R
 2. Rudder and Ailerons – AS REQUIRED
 3. Rotate at V_R ; Climb at V_2
 4. Clear of Obstacles – $V_2 + 30$, FLAPS UP
 5. Gear – UP
 - a. 1, 2, 3, 4, 5
 - b. 1, 2, 3, 5, 4
 - c. 2, 1, 3, 4, 5
 - d. 2, 1, 3, 5, 4
 - e. 2, 3, 2, 4, 5
 - f. 3, 1, 2, 5, 4

3. The engine fuel and hydraulic pumps continue to operate with a windmilling engine. Prolonged operation _____ fluid available to the pumps _____ cause damage. Therefore, the fire warning light _____ be depressed unless a fuel or hydraulic leak is suspected.
 - a. without; may not; should
 - b. without; may not; should not
 - c. without; may; should not
 - d. with; may; should not
 - e. with; may; should
 - f. with; may not; should
4. The memory items in correct order for the ENGINE FAILURE DURING APPROACH procedure are:
 1. Thrust Lever – INCREASE AS REQUIRED
 2. Control Wheel Master Switch – DEPRESS
 3. Flaps – 20° MAXIMUM
 4. Airspeed – $V_{REF} + 10$
 - a. 1, 2, 3, 4
 - b. 1, 2, 4, 3
 - c. 1, 3, 2, 4
 - d. 2, 1, 3, 4
 - e. 2, 3, 1, 4
 - f. 2, 1, 4, 3
5. The memory item(s) in correct order for the ENGINE SHUTDOWN IN FLIGHT procedure are:
 1. Thrust Lever – CUTOFF
 2. AIR IGN Switch – OFF
 3. START GEN Switch – OFF
 4. BLEED AIR Switch – OFF
 - a. 1, 2, 3, 4
 - b. 1, 2, 4, 3
 - c. 1, 3, 2, 4
 - d. 1, 2, 3
 - e. 1, 2
 - f. 1

6. No more than ____ consecutive starter-assist airstart(s) should be attempted to avoid generator burnout and severe battery drain.
 - a. one
 - b. two
 - c. three
 - d. four
 - e. five
7. During single engine operation, the ____ switch should be placed to the ____ position in order to prevent overloading the ____.
 - a. ENG SYNC; ON; yaw damper
 - b. ENG SYNC; OFF; yaw damper
 - c. cool-fan; ON; operating generator
 - d. cool-fan; OFF; operating generator
 - e. cool-fan; OFF; Freon cooling system
8. The memory items in correct order for the INADVERTENT THRUST REVERSER DEPLOYMENT DURING TAKEOFF (IF INSTALLED) procedure are:
 1. Wheel Brakes – APPLY
 2. Thrust Levers – IDLE
 3. Spoilers – EXT
 4. Thrust Reversers – DEPLOY
 - a. 1, 2, 3, 4
 - b. 1, 2, 4, 3
 - c. 1, 3, 2, 4
 - d. 2, 1, 3, 4
 - e. 2, 1, 4, 3
 - f. 2, 3, 1, 4

9. During second segment climb with one engine inoperative, lateral control is improved with the tip tanks _____. On aircraft with FUEL JETTISON switch, and if time permits, it is recommended that tip tank fuel be _____.
- empty; jettisoned
 - empty; used
 - empty; left in the tips
 - one-half full; jettisoned
 - one-half full; used
 - one-half full; left in the tips
10. The memory items in correct order for the INADVERTENT THRUST REVERSER DEPLOYMENT DURING TAKEOFF ABOVE V_1 (if installed) procedure are:
- Rudder and Ailerons – AS REQUIRED
 - Thrust Lever – IDLE
 - T/R Arming Switches – OFF
 - Normal EMER STOW Switch (Affected Engine)– EMER STOW
 - Rotate At V_R ; Accelerate To V_2
 - Gear – UP
 - Flaps – UP ($V_2 + 30$)
- 1, 2, 3, 4, 5, 6, 7
 - 1, 2, 3, 4, 5, 7, 6
 - 1, 3, 2, 4, 5, 6, 7
 - 2, 1, 3, 4, 5, 6, 7
 - 2, 1, 4, 3, 5, 7, 6
 - 2, 1, 3, 5, 4, 6, 7
11. Before attempting an airstart, check the relight envelope. The aircraft should be in the relight envelope below _____ feet to use windmilling airstart procedures.
- 10,000
 - 15,000
 - 20,000
 - 25,000
 - 30,000
 - relight attempts can be made at any altitude

12. If the engine stall warning system activates above aircraft and engine stall speed limits, verify that the aircraft is above the engine stall limits. Turn the _____ switch OFF. Pull the _____ circuit breaker, then turn the _____ switch ON.
 - a. R STALL WARNING; ENG STALL WARN; R STALL WARNING
 - b. L STALL WARNING; ENG STALL WARN; L STALL WARNING
 - c. L STALL WARNING; ENG STALL WARN; R STALL WARNING
 - d. R STALL WARNING; ENG STALL WARN; L STALL WARNING
13. If installed, the illuminated _____ annunciator indicates that the clamshell doors are in transit..
 - a. UNSAFE
 - b. DEPL
 - c. ARM
 - d. ENG SYNC
 - e. none of the above
14. The illuminated _____ annunciator indicates that clamshell doors are fully deployed, the subthrottles are unlocked and can be moved.
 - a. UNSAFE
 - b. DEPL
 - c. ARM
 - d. ENG SYNC
 - e. none of the above
15. The illuminated _____ annunciator illuminates when the thrust reversers are armed and the aircraft is on the ground.
 - a. UNSAFE
 - b. DEPL
 - c. ARM
 - d. ENG SYNC
 - e. none of the above

16. The ENG SYNC annunciator illuminates when the _____ is _____ with the engine synchronization switch in _____.
- a. left main landing gear; down and locked; SYNC
 - b. right main landing gear; down and locked; SYNC
 - c. nose landing gear; down; SYNC
 - d. nose landing gear; down and locked; SYNC
 - e. nose landing gear; down and locked; ON
 - f. landing gear; down; ON
17. If the _____ annunciator extinguishes and the _____ light illuminates then extinguishes indicating a successful stow, the affected engine may be restored to normal forward thrust operation leaving the thrust reverser system CBs _____.
- a. DEPLOY; UNSAFE; pulled
 - b. DEPLOY; UNSAFE; in
 - c. DEPLOY; DEPLOY; pulled
 - d. UNSAFE; DEPLOY; pulled
 - e. UNSAFE; UNSAFE; in
 - f. ARM; UNSAFE; pulled

**Fire Protection
Abnormals and
Emergency
Procedures****Reference: Technical Manual Chapter 5D,
Operating Handbook E-Pages****Multiple Choice**

1. Which of the following is not affected when a fire button is pushed?
 - a. Lubricating oil shutoff
 - b. Extinguisher arming
 - c. Fuel shutoff
 - d. Hydraulic shutoff
2. Manual operation of the fire extinguisher system is indicated by _____.
 - a. the green disc missing
 - b. the yellow disc missing
 - c. the red disc missing
 - d. the arm light out
3. The memory items in correct order for ENGINE FIRE – SHUT-DOWN are:
 1. FIRE Warning Light – LIFT GUARD and DEPRESS
 2. Thrust Lever – CUTOFF
 3. ARMED Light – DEPRESS ONE
 4. If Fire Continues – DEPRESS OTHER
 5. If Fire Continues – LAND
 - a. 1, 2, 3, 4, 5
 - b. 1, 2, 3, 5, 4
 - c. 1, 3, 2, 4, 5
 - d. 2, 1, 3, 4, 5
 - e. 2, 1, 3, 5, 4
 - f. 2, 1, 4, 3, 5

Self-Check 6A

**Fuel
Abnormal and
Emergency
Procedures****Reference: Technical Manual Chapter 5F,
Operating Handbook E-Pages****Multiple Choice**

1. The maximum out of balance between wing fuel during refueling should not exceed _____.
 - a. 50 gallons
 - b. 125 gallons
 - c. 200 gallons
 - d. no limitations
2. When the low fuel warning light illuminates, it is an indication that either wing tank has dropped to _____.
 - a. 250 lbs
 - b. 400 to 500 lbs
 - c. 600 lbs
 - d. 750 lbs
3. Fuel jettison _____ be accomplished (if installed) with any combination of speed, flaps and/or landing gear. Fuel jettison will be faster in a _____ attitude. Jettison time is approximately _____ minutes.
 - a. can; nose high; 3
 - b. can; nose high; 5
 - c. can not; nose high; 3
 - d. can not; nose high; 5
 - e. can; nose low; 3
 - f. can; nose low; 5
4. Jettisoned fuel _____ recorded on the fuel counter. Therefore, the fuel counter reading _____ be used to compute fuel remaining or aircraft weight after jettisoning fuel (if installed).
 - a. is not; should
 - b. is not; should not
 - c. is; should
 - d. is; should not

5. The illumination of the FUEL FILTER annunciator indicates a clog in _____ filter causing the fuel filter bypass to open. The Standby Pump Switches should be placed to _____.
 - a. the left fuel; ON
 - b. the left fuel; OFF
 - c. the right fuel; ON
 - d. the right fuel; OFF
 - e. either fuel; ON
 - f. either fuel; OFF
6. If the fuel will not balance after procedurally using the “pump” CB as a switch, _____.
 - a. close the crossflow valve
 - b. turn the standby pumps to OFF
 - c. use of fuselage fuel will aggravate the imbalance
 - d. use unequal power settings to balance fuel load and alter flight plan
 - e. all of the answers are correct
 - f. none of the answers are correct

**Electrical
Abnormal and
Emergency
Procedures****Reference: Technical Manual Chapter 5C,
Operating Handbook E-Pages****Multiple Choice**

1. In the event of complete failure of the normal electrical system, the emergency battery system if in the ON position, will supply power to the _____.
 - a. gear
 - b. flaps
 - c. spoilers
 - d. emergency attitude gyro
 - e. all of the answers are correct
 - f. none of the answers are correct
2. Illumination of the EMER PWR 1 annunciator when selected to the STBY position, will supply power to the attitude gyro and give it an operating time of _____.
 - a. 30 minutes
 - b. 2 hours and 30 minutes
 - c. 3 hours and 45 minutes
 - d. 5 hours
3. If the L ESS BUS circuit breaker opens, reduce the electrical load on the Essential bus. Pull all of the circuit breakers on the Left Essential bus and after one minute reset the L ESS BUS CB. If the breaker remains reset, _____.
 - a. add loads as necessary
 - b. reset the ESS BUS TIE breaker
 - c. reset all of the breakers on the L ESS BUS
 - d. add loads as necessary for safe operation
 - e. reset the ESS BUS TIE and the L ESS BUS breaker at the same time
4. During dual generator failure, if generators do not reset, _____.
 - a. Start Gen Switches – OFF
 - b. Replan Flight To – LAND AS SOON AS POSSIBLE
 - c. Jet Pump Switches – ON
 - d. all of the answers are correct
 - e. none of the answers are correct
 - f. only b and c are correct

5. During dual generator failure if generators do not reset and there is fuel in the fuselage (aircraft without fuselage valve switch), _____.
 - a. Fus Tank XFER/FILL Switch – XFER
 - b. Fus Pump CB – PULL
 - c. Fus Valve Switch – OPEN
 - d. all of the answers are correct
 - e. none of the answers are correct
 - f. only a and b are correct
6. During dual generator failure if generators do not reset and there is fuel in the fuselage (aircraft with fuselage valve switch), _____.
 - a. Fus Tank XFER/FILL Switch – XFER
 - b. Non Essential Equipment – OFF
 - c. Fus Valve Switch – OPEN
 - d. all of the answers are correct
 - e. none of the answers are correct
 - f. only b and c are correct
7. Illumination of the PRI or SEC INV annunciator indicates the associated inverter has failed. The suggested procedure is _____.
 - a. check the INV and AC BUS CBs and reset if necessary
 - b. allow one minute of cooling before resetting the INV CB
 - c. turn the failed inverter's switch OFF and then ON
 - d. pull, and reset the associated INV circuit breaker
 - e. all of the answers are correct
 - f. none of the answers are correct

8. During complete AC power failure, which of the following systems may be affected?
1. Vertical and directional gyros – use standby gyro
 2. Avionics displays – not affected
 3. Autopilot and yaw damper – do not exceed .78
 4. VHF NAV and ADF radios – not affected
 5. EPR and engine oil pressure indicators – monitor the remaining engine instruments
 6. Electrically servoed altimeters and VSIs – not affected
 7. Nose wheel steering
 8. Descend to 15,000 ft or lower
 9. Maintain 250 KIAS to improve aircraft stability
- a. 1, 2, 3, 4, 5, 6, 7, 8, 9
 - b. 1, 2, 3, 4, 5, 6, 7, 8
 - c. 1, 2, 3, 7, 8
 - d. 1, 3, 5, 7, 9
 - e. 2, 4, 6, 8
 - f. 2, 5, 7

Self-Check 6B

**Ice and Rain
Protection
Abnormal and
Emergency
Procedures****Reference: Technical Manual Chapter 5H,
Operating Handbook E-Pages****Multiple Choice**

1. If ice is suspected on the horizontal stabilizer, how are the flaps configured for approach and landing?
 - a. Flaps 20, $V_{REF} + 10$
 - b. Flaps 20, $V_{REF} + 5$
 - c. Flaps UP, $V_{REF} + 20$
 - d. Flaps UP, $V_{REF} + 10$
 - e. Flaps DN, $V_{REF} + 5$
2. A wing anti-ice overheat is indicated by _____.
 - a. an amber light on the glareshield and a master warning light
 - b. wing heat green light off
 - c. automatic shutoff valve closed
 - d. the wing temperature gage in the yellow band and a red light on the glareshield
3. For effective engine anti-icing, engine RPM should not be less than _____ RPM.
 - a. 70%
 - b. 72%
 - c. 80%
 - d. 85%
 - e. 87%
4. During the ENGINE ICE INGESTION procedure, the engine RPM should be set not less than _____ or more than _____.
 - a. 70%; 80%
 - b. 72%; 85%
 - c. 80%; 87%
 - d. 87%; 93%

5. During a stabilizer heat failure – landing, the flaps should be set at _____ degrees, the final approach speed $V_{REF} +$ _____, and the landing distance multiplied by _____.
 - a. 20; 10; 1.15
 - b. 20; 20; 1.15
 - c. 20; 20; 1.30
 - d. 40; 10; 1,15
 - e. 40; 20; 1.15
 - f. 40; 20; 1.30

6. Illumination of the L ENG ICE annunciator occurs when there is insufficient bleed air pressure in the engine anti-ice system. With the nacelle heat switch ON, increase the associated engine RPM to at least _____%.
 - a. 70
 - b. 72
 - c. 80
 - d. 85
 - e. 87
 - f. 93

7. Illumination of the WING OV HT annunciator indicates the temperature of the leading edge of the wing is _____ degrees Fahrenheit. The stab/wing heating system should be _____.
 - a. 190; turned off
 - b. 215; turned on
 - c. 225; turned off
 - d. 250; turned off
 - e. 215; turned off
 - f. 225; turned on

Flight Controls Abnormal and Emergency Procedures

Reference: Technical Manual Chapter 5E,
Operating Handbook E-Pages

Multiple Choice

1. The stick puller system _____.
 - a. assists the crew in roundout during landing
 - b. operates when negative G loading limit is exceeded
 - c. operates at 0.82 Mach and above
 - d. prevents the aircraft from stalling

2. The memory items in correct order for PITCH AXIS MALFUNCTION are:
 1. Control Wheel Master Switch – DEPRESS AND HOLD
 2. Attitude Control – AS REQUIRED
 3. Thrust Levers – AS REQUIRED
 4. STALL WARNING Switches – OFF
 5. P TRIM Selector Switch – OFF
 - a. 1, 2, 3, 4, 5
 - b. 1, 2, 4, 3, 5
 - c. 2, 1, 3, 4, 5
 - d. 2, 1, 4, 3, 5
 - e. 2, 3, 1, 4, 5
 - f. 2, 3, 1, 5, 4

3. During the PITCH AXIS MALFUNCTION recovery while the air-speed is above M_{MO} , _____ control must be smoothly and steadily applied to prevent encountering excessive _____ activity and airframe buffet. Beyond M_{MO} , a _____ G pullup may be sufficient to excite aileron activity. The spoilers _____ be extended during any nosedown pitch upset at any speed.
 - a. aileron; aileron; 1.5; may
 - b. aileron; aileron; .5; may
 - c. aileron; elevator; 1.5; may not
 - d. elevator; aileron; 1.5; may not
 - e. elevator; aileron; .5; may not
 - f. elevator; aileron; 1.5; may

4. During the PITCH AXIS MALFUNCTION procedure and after control is regained:
 - a. AFCS PITCH CB – PULL (Pilot’s Essential Bus)
 - b. Control Wheel Master Switch – RELEASE
 - c. Yaw Damper – ENGAGE
 - d. all of the answers are correct
5. During the PITCH AXIS MALFUNCTION isolation procedure, if both the NORM and EMER trims are inoperative:
 - a. Refer to JAMMED STABILIZER LANDING
 - b. Airspeed – STALL + 30 minimum
 - c. Bank angle – 30° MAX
 - d. On final – V_{REF}
 - e. All of the answers are correct
6. During the PITCH AXIS MALFUNCTION isolation procedure, if both STALL WARNINGS switches are OFF:
 - a. Refer to JAMMED STABILIZER LANDING
 - b. Airspeed – STALL + 30 minimum
 - c. Bank angle – 30° MAX
 - d. On final – V_{REF}
7. During the PITCH AXIS MALFUNCTION isolation procedure, if malfunction recurs in NORM pitch trim:
 - a. P TRIM Selector Switch – EMER
 - b. EMERGENCY Pitch Trim – OPERATE
 - c. PITCH CB – PULL (Pilot’s Essential Bus)
 - d. All of the answers are correct
8. During the PITCH AXIS MALFUNCTION isolation procedure, if malfunction is NOT isolated to the autopilot:
 - a. AFCS PITCH CB – PULL (Pilot’s Essential Bus)
 - b. Autopilot – DO NOT OPERATE
 - c. AFCS PITCH CB – RESET (Pilot’s Essential Bus)
 - d. Autopilot – AS DESIRED
 - e. Airspeed – DO NOT EXCEED .78 MI

9. The memory items in correct order for ROLL OR YAW MAL-FUNCTION are:
1. Control Wheel Master Switch – DEPRESS
 2. Attitude – CONTROL
- If force continues:
3. Airspeed – REDUCE
 4. ROLL or YAW CB – PULL (pilot's Essential bus)
- a. 1, 2, 3, 4
 - b. 1, 2, 4, 3
 - c. 2, 1, 3, 4
 - d. 2, 1, 4, 3
 - e. 3, 4, 1, 2
 - f. 3, 4, 2, 1
10. The memory items in correct order for the RECOVERY FROM INADVERTENT OVERSPEED procedure are _____.
1. Autopilot – DISENGAGE
 2. Thrust Levers – IDLE
 3. Pitch And Roll Attitude – IDENTIFY
 4. Wings – LEVEL
 5. Elevator and Pitch Trim – AS REQUIRED
 6. If overspeed is severe, or attitude is extreme or unknown, Landing Gear Switch – DOWN
- a. 1, 2, 3, 4, 5, 6
 - b. 1, 2, 3, 4, 6, 5
 - c. 2, 1, 3, 4, 5, 6
 - d. 2, 1, 4, 3, 6, 5
 - e. 3, 1, 2, 4, 5, 6
 - f. 3, 1, 2, 5, 4, 6

11. During a jammed stabilizer landing, anticipate the highest control pressure of approximately _____ pounds during landing flare. Copilot assistance _____ recommended.
 - a. 25; is not
 - b. 25; is
 - c. 50; is not
 - d. 50; is
 - e. 75; is not
 - f. 75; is
12. The landing distance during a jammed stabilizer landing should be multiplied by _____.
 - a. 1.15
 - b. 1.20
 - c. 1.30
 - d. 1.35
 - e. 1.40
 - f. 1.50
13. The landing distance during a flaps up landing should be multiplied by _____.
 - a. 1.15
 - b. 1.20
 - c. 1.30
 - d. 1.35
 - e. 1.40
 - f. 1.50
14. Landing with _____ tip fuel will improve Dutch roll control and lateral control. With both yaw dampers inoperative, plan flight so as to land with both tip tanks _____.
 - a. empty; empty
 - b. empty; minimum
 - c. minimum; empty
 - d. minimum; minimum
 - e. one-half; half empty
 - f. half empty; one-half empty

15. The TAKE-OFF TRIM annunciator comes on when the horizontal stabilizer pitch trim setting is more than _____ degree outside the take-off segment on the pitch trim indicator. In the air, this light _____ come on.
- a. one-third; does
 - b. one-third; does not
 - c. one-half; does
 - d. one-half; does not
 - e. one; does
 - f. one; does not

True or False

- 1. _____ A flight check is required on the aircraft after adjusting the stall warning system.
- 2. _____ The aircraft may be dispatched with a stall warning inoperative.

Self-Check 6C

**Hydraulics/
Landing Gear/
Brakes
Abnormal and
Emergency
Procedures****Reference: Technical Manual Chapters 5G and 5I,
Operating Handbook E-Pages****Multiple Choice**

1. A gear warning horn sounds when the flaps are selected down if _____.
 - a. the airspeed is above 202 kts
 - b. the spoilers are already extended
 - c. with more than 25° of flaps with the gear retracted
 - d. with more than 13° of flaps with the gear retracted and airspeed above 203 kts
2. Loss of electrical power to the squat switch relay box will cause the box and all related systems to fail _____.
 - a. to the ground mode
 - b. to the air mode
 - c. to remain in the mode of operation at the time of power loss
 - d. does not affect the relay box to fail on the ground
3. If a main gear up line ruptured, resulting in a loss of hydraulic fluid and the aux hydraulic pump has been turned off, _____.
 - a. all hydraulic fluid would be lost
 - b. four-tenths of a gallon of hydraulic fluid will remain in the reservoir
 - c. the hydraulic fuses will close to ensure sufficient fluid remaining in the reservoir
 - d. a landing gear would not be able to be extended
4. The emergency air system on the Learjet operates _____.
 - a. the gear and brakes
 - b. the gear, flaps, and the brakes
 - c. the gear, flaps, spoiler, and brakes
 - d. none of the above

5. After landing gear is locked down using the emergency air system, the gear light indications would be _____.
 - a. three green lights
 - b. three green lights and one red light
 - c. three green lights and two red lights
 - d. three green lights and three red lights

6. Having accomplished the ALTERNATE GEAR EXTENSION ELECTRICAL MALFUNCTION checklist, the _____ green LOCKED DOWN gear and _____ red UNSAFE (inboard gear door) lights should be illuminated. In case of a go-around the gear _____ be retracted.
 - a. three; two; could
 - b. three; two; should not
 - c. two; three; could
 - d. two; three; should not

7. Having accomplished the HYDRAULIC SYSTEM FAILURE ALTERNATE GEAR EXTENSION checklist, the _____ must be returned to the up position or air pressure for _____ braking _____ be available in the event there is a leak in the air line.
 - a. gear handle; emergency; will not
 - b. gear handle; emergency; will
 - c. gear handle; normal; will not
 - d. emer gear ext lever; emergency; will not
 - e. emer gear ext lever; emergency; will
 - f. emer gear ext lever; normal; will not

8. The memory items in correct order for emergency braking are:
 1. EMER BRAKE Handle – PUSH DOWN
 2. Rudder and/or Nosewheel Steering – AS REQUIRED
 3. Anti-Skid Switch – RECYCLE
 4. Drag Chute – DEPLOY
 5. Thrust Reversers – AS REQUIRED
 - a. 1, 2, 3, 4, 5
 - b. 1, 2, 3, 4
 - c. 1, 2, 3
 - d. 1, 2
 - e. 1
9. During a go around/balked landing (one engine) with less than _____ pounds of fuel in either wing, a prolonged nose-up attitude of _____ degrees or more may cause fuel starvation and engine flameout.
 - a. 400; 10
 - b. 400; 15
 - c. 400; 18
 - d. 600; 10
 - e. 600; 15
 - f. 600; 18
10. When landing with asymmetric fuel and if fuel jettison is not installed, or pilot elects not to jettison fuel, increase speed to approximately $V_{REF} + \underline{\hspace{1cm}}$ over normal landing approach speed, and landing distance by _____, with one tip tank empty and one tip half full.
 - a. 10; 1.10
 - b. 10; 1.15
 - c. 10; 1.20
 - d. 20; 1.10
 - e. 20; 1.15
 - f. 20; 1.20
11. Considerations for ditching in moderate seas is to land _____.
 - a. into wind
 - b. parallel to swells
 - c. downwind
 - d. nosedown

**Environmental
Abnormal and
Emergency
Procedures****Reference: Technical Manual Chapters 5J and 5K,
Operating Handbook E-Pages****Multiple Choice**

1. The manual pressurization control lever, commonly called the “cherry picker” is _____.
 - a. extremely sensitive
 - b. could be operated when manual pressurization is selected
 - c. could be operated when automatic pressurization is selected
 - d. all of the above
2. The cabin altitude pressure switch that operates the warning horn is set at approximately _____.
 - a. 10,000 ft cabin altitude
 - b. 12,000 ft cabin altitude
 - c. 14,000 ft cabin altitude
 - d. 22,500 ft cabin altitude
3. The passenger oxygen masks automatically drip from the overhead storage compartments at _____.
 - a. 8,500 ft cabin altitude
 - b. 10,000 ft cabin altitude
 - c. 12,000 ft cabin altitude
 - d. 14,000 ft cabin altitude
4. To supply oxygen to the passenger mask, the lanyard attached to each mask _____.
 - a. must always be pulled
 - b. need not be pulled if the masks drop automatically
 - c. need not be pulled if the pilot operates the manual bypass valve
 - d. is controlled by the cockpit controls

5. The memory items in correct order for the EMERGENCY DESCENT procedure are:
 1. Oxygen Masks – DON
 2. Autopilot – DISENGAGE
 3. Thrust Levers – IDLE
 4. Spoilers – EXTEND
 5. Landing Gear – DOWN
 6. At 0.78 MI or 265 KIAS – DESCEND
At 0.82 MI or 265 KIAS – DESCEND (**25 B/C**)
 - a. 1, 2, 3, 4, 5, 6
 - b. 1, 2, 3, 4, 6, 5
 - c. 1, 2, 4, 3, 5, 6
 - d. 1, 3, 2, 4, 6, 5
 - e. 1, 3, 2, 4, 5, 6
 - f. 2, 1, 3, 4, 6, 5
6. During the PRESSURIZATION LOSS AT ALTITUDE procedure (**510 system**), the CAB ALT annunciator illuminates at _____ feet.
 - a. 7,200
 - b. 8,750
 - c. 9,500
 - d. 10,100
 - e. 11,500
 - f. 14,000
7. During the PRESSURIZATION LOSS AT ALTITUDE procedure (**510 system**), the emergency pressurization activates at _____ feet.
 - a. 7,200
 - b. 8,750
 - c. 9,500
 - d. 10,100
 - e. 11,500
 - f. 14,000

8. During the PRESSURIZATION LOSS AT ALTITUDE procedure (**510 system**), the cabin altitude warning horn sounds at _____ feet.
 - a. 7,200
 - b. 8,750
 - c. 9,500
 - d. 10,100
 - e. 11,500
 - f. 14,000

9. During the PRESSURIZATION LOSS AT ALTITUDE procedure (**510 System**), the passenger oxygen masks should automatically drop at _____ feet.
 - a. 7,200
 - b. 8,750
 - c. 9,500
 - d. 10,100
 - e. 11,500
 - f. 14,000

10. The memory items in correct order for the CABIN/COCKPIT FIRE, SMOKE, OR FUMES procedure are:
1. Crew Oxygen Masks – DON
 2. Smoke Goggles – DON
 3. Passenger Oxygen Control Valves – MAN & NORM
 4. OXY-MIC Switches – ON
- If source of fire/smoke not immediately known:
5. Land – AS SOON AS POSSIBLE
- If source known:
6. Extinguish Fire – Use HANDHELD EXTINGUISHER or REMOVE SOURCE OF SMOKE or FUMES
- If it cannot be verified fire has been extinguished:
- 6a. Land – AS SOON AS POSSIBLE
- If fire has been extinguished:
- 6b. Land – AS SOON AS PRACTICAL
- a. 1, 2, 3, 4, 5, 6
 - b. 1, 2, 3, 4, 6, 5
 - c. 1, 2, 4, 3, 5, 6
 - d. 1, 3, 2, 4, 5, 6
 - e. 1, 3, 2, 5, 4, 6
 - f. 2, 1, 3, 4, 5, 6
11. During the RETURN TO NORMAL PRESSURIZATION AIR-FLOW procedure, the cabin must be below ____ feet and the CAB ALT light OUT before the bleed air switches are reset.
- a. 7,200
 - b. 8,750
 - c. 9,500
 - d. 10,100
 - e. 11,500
 - f. 14,000

12. The memory items in correct order for the EMERGENCY DESCENT procedure (**450 system**) are:
1. Oxygen Masks – DON
 2. Autopilot – DISENGAGE
 3. Thrust Levers – IDLE
 4. Spoilers – EXTEND
 5. Landing Gear – DOWN
 6. At .78 MI or 265 KIAS – DESCEND
At. 82 MI or 265 KIAS – DESCEND (25 B/C)
- a. 1, 2, 3, 4, 5, 6
 - b. 1, 2, 3, 4, 6, 5
 - c. 1, 2, 4, 3, 5, 6
 - d. 1, 3, 2, 4, 6, 5
 - e. 1, 3, 2, 4, 5, 6
 - f. 2, 1, 3, 4, 6, 5
13. During the PRESSURIZATION LOSS AT ALTITUDE procedure (**450 system**), the cabin altitude warning horn sounds at _____ feet.
- a. 7,200
 - b. 8,750
 - c. 9,500
 - d. 10,000
 - e. 11,500
 - f. 14,000
14. During the PRESSURIZATION LOSS AT ALTITUDE procedure (**450 system**), the passenger oxygen masks should automatically drop at _____ feet.
- a. 7,200
 - b. 8,750
 - c. 9,500
 - d. 10,100
 - e. 11,500
 - f. 14,000

15. The memory items in correct order for the CABIN/COCKPIT FIRE, SMOKE, OR FUMES procedure are:

1. Crew Oxygen Masks – DON
2. Smoke Goggles – DON
3. Passenger Oxygen Control Valves – MAN & NORM
4. OXY-MIC Switches – ON

If source of fire/smoke not immediately known:

5. Land – AS SOON AS POSSIBLE

If source known:

6. Extinguish Fire – USE HANDHELD EXTINGUISHER or REMOVE SOURCE OF SMOKE or FUMES

If it cannot be verified fire has been extinguished:

- 6a. Land – AS SOON AS POSSIBLE

If fire has been extinguished:

- 6b. Land – AS SOON AS PRACTICAL

- a. 1, 2, 3, 4, 5, 6
- b. 1, 2, 3, 4, 6, 5
- c. 1, 2, 4, 3, 5, 6
- d. 1, 3, 2, 4, 5, 6
- e. 1, 3, 2, 5, 4, 6
- f. 2, 1, 3, 4, 5, 6

Self-Check 1 Answer Key

Refer to page 5

Powerplant

Multiple Choice

1. a
2. d
3. a
4. d
5. a
6. a
7. b
8. d
9. b
10. b
11. d
12. c
13. d
14. d
15. d
16. c
17. e
18. g
19. a
20. b
21. c

True or False

1. True
2. False
3. True
4. False
5. True
6. False
7. False
8. True

Fire Protection

Multiple Choice

1. a
2. b
3. d
4. b
5. a
6. a
7. d
8. d
9. b
10. b
11. c
12. d
13. e

True or False

1. False
2. True
3. True

Fuel

Multiple Choice

1. c
2. b
3. b
4. d
5. d
6. c (d, **XR mod; b, unmodified 24E**)
7. c
8. b
9. d
10. a
11. d
12. a
13. a
14. b

True or False

1. True
2. True
3. True
4. False
5. True
6. True
7. False
8. True

Self-Check 2 Answer Key

Refer to page 17.

Hydraulics/Landing Gear/Brakes

Multiple Choice

1. a
2. a
3. b
4. d
5. d
6. c
7. d
8. b
9. c
10. c
11. d
12. b
13. a
14. b
15. d
16. a, b, c, d
17. b
18. b
19. a

True or False

1. True
2. False
3. False
4. False
5. False

Electrical/Lighting

Multiple Choice

1. b
2. c
3. b
4. c
5. c
6. d
7. a
8. d
9. b (c; with AMK 85-1)
10. d
11. a
12. c
13. d
14. d
15. e
16. a

True or False

1. True
2. True
3. True
4. True
5. False
6. True

Avionics

Multiple Choice

1. c
2. d
3. b
4. c
5. a
6. b
7. c
8. a
9. c
10. b
11. d
12. c
13. a
14. d

True or False

1. False
2. True
3. False
4. False

Self-Check 3 Answer Key

Refer to page 27.

Pneumatics/Air Conditioning/ Pressurization

Multiple Choice

1. d
2. a
3. c
4. c (450) or d (510)
5. c (450) or b (510)
6. b

450 Pressurization System only

7. a
8. c
9. b
10. c
11. d
12. b
13. d
14. d
15. c
16. a

True or False

1. False
2. True
3. False
4. True

510 Pressurization System only

1. a
2. a
3. c
4. c
5. d
6. b
7. b
8. d

Ice and Rain Protection

Multiple Choice

1. b
2. c
3. d
4. c
5. a
6. d
7. a
8. b
9. c
10. d
11. c
12. a
13. a
14. c
15. c

True or False

1. False
2. True
3. False
4. False
5. False

Self-Check 4 Answer Key

Refer to page 35.

Flight Controls

Multiple Choice

1. d
2. c
3. a
4. c
5. e
6. d
7. d
8. c; d
9. a; b; c
10. b; e
11. a; c; d
12. b
13. a
14. a
15. b
16. a
17. c
18. b
19. a
20. c

True or False

1. True
2. False

Self-Check 5 Answer Key

Refer to page 39.

Powerplant Abnormal and Emergency Procedures

Multiple Choice

1. d
2. d
3. c
4. d
5. f
6. c
7. d
8. d
9. a
10. a
11. d
12. a
13. a
14. b
15. c
16. d
17. a

Fire Protection Abnormal and Emergency Procedures

Multiple Choice

1. a
2. b
3. d

Self-Check 6A Answer Key

Refer to page 47.

Fuel Abnormal and Emergency Procedures

Multiple Choice

1. b
2. b
3. b
4. b
5. e
6. e

Electrical Abnormal and Emergency Procedures

Multiple Choice

1. e
2. c
3. d
4. d
5. f
6. f
7. e
8. d

Self-Check 6B Answer Key

Refer to page 53.

Ice and Rain Protection Abnormal and Emergency Procedures

Multiple Choice

1. a
2. d
3. c
4. c
5. a
6. c
7. e

Flight Controls Abnormal and Emergency Procedures

Multiple Choice

1. c
2. e
3. d
4. d
5. a
6. b; c; d
7. d
8. c; d
9. c
10. c
11. f
12. c
13. d
14. c
15. d

True or False

1. True
2. False

Self-Check 6C Answer Key

Refer to page 61.

Hydraulics/Landing Gear/Brakes Protection Abnormal and Emergency Procedures

Multiple Choice

1. c
2. b
3. b
4. a
5. c
6. b
7. d
8. e
9. d
10. a
11. b

Environmental Abnormal and Emergency Procedures

Multiple Choice

1. d
2. a
3. d
4. a
5. e
6. b
7. c
8. d
9. f
10. a
11. a
12. e
13. d
14. f
15. a



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