1. Where may an aircraft's operating limitations be found?

A-On the Airworthiness Certificate.

B- In the current, FAA-approved flight manual, approved manual material, markings, and placards, or any combination thereof.

C- In the aircraft airframe and engine logbooks.

Answer B. GFDPP 2-10 (FAR 91.9)

2.

To minimize the side loads placed on the landing gear during touchdown, the pilot should keep the

A- direction of motion of the aircraft parallel to the runway.

B- longitudinal axis of the aircraft parallel to the direction of its motion.

C- downwind wing lowered sufficiently to eliminate the tendency for the aircraft to drift.

Answer A.

3.

Where may an aircraft's operating limitations be found if the aircraft has an Experimental or Special light-sport airworthiness certificate?

A-Attached to the Airworthiness Certificate.

B- In the current, FAA-approved flight manual.

C- In the aircraft airframe and engine logbooks.

Answer A

4.

Excessively high engine temperatures will

A- cause damage to heat-conducting hoses and warping of the cylinder cooling fins.

B- cause loss of power, excessive oil consumption, and possible permanent internal engine damage.

C- not appreciably affect an aircraft engine.

Answer B

5.

If the engine oil temperature and cylinder head temperature gauges have exceeded their normal operating range, the pilot may have been operating with

A-the mixture set too rich.

B- higher-than-normal oil pressure.

C- too much power and with the mixture set too lean.

Answer c

6.

One purpose of the dual ignition system on an aircraft engine is to provide for

A- improved engine performance.

B- uniform heat distribution.

C- balanced cylinder head pressure

Answer A

7.

On aircraft equipped with fuel pumps, when is the auxiliary electric driven pump used?

A- In the event engine-driven fuel pump fails.

B-All the time to aid the engine-driven fuel pump.

C- Constantly except in starting the engine.

Answer A

8.

The operating principle of float-type carburetors is based on the

A- automatic metering of air at the venturi as the aircraft gains altitude.

B- difference in air pressure at the venturi throat and the air inlet.

C- increase in air velocity in the throat of a venturi causing an increase in air pressure.

Answer B

9.

The basic purpose of adjusting the fuel/air mixture at altitude is to

A- decrease the amount of fuel in the mixture in order to compensate for increased air density.

B- decrease the fuel flow in order to compensate for decreased air density.

C- increase the amount of fuel in the mixture to compensate for the decrease in pressure and density of the air.

Answer B

10.

During the run-up at a high-elevation airport, a pilot notes a slight engine roughness that is not affected by the magneto check but grows worse during the carburetor heat check. Under these circumstances, what would be the most logical initial action?

A- Check the results obtained with a leaner setting of the mixture.

B- Taxi back to the flight line for a maintenance check.

C- Reduce manifold pressure to control detonation.

Answer B

11.

While cruising at 9,500 feet MSL, the fuel/air mixture is properly adjusted. What will occur if a descent to 4,500 feet MSL is made without readjusting the mixture?

A- The fuel/air mixture may become excessively lean.

B- There will be more fuel in the cylinders than is needed for normal combustion, and the excess fuel will absorb heat and cool the engine.

C- The excessively rich mixture will create higher cylinder head temperatures and may cause detonation.

Answer A

12.

Which condition is most favorable to the development of carburetor icing?

A-Any temperature below freezing and a relative humidity of less than 50 percent.

B- Temperature between 32 and 50°F and low humidity.

C- Temperature between 20 and 70°F and high humidity.

Answer C

13.

The possibility of carburetor icing exists even when the ambient air temperature is as

A- high as 70°F and the relative humidity is high.

B- high as 95°F and there is visible moisture.

C- low as 0°F and the relative humidity is high.

Answer A

14.

If an aircraft is equipped with a fixed-pitch propeller and a float-type carburetor, the first indication of carburetor ice would most likely be

A- a drop in oil temperature and cylinder head temperature.

B- engine roughness.

C- loss of RPM.

Answer C

15.

Applying carburetor heat will

A- result in more air going through the carburetor.

B- enrich the fuel/air mixture.

C- not affect the fuel/air mixture

Answer B

16.

What change occurs in the fuel/air mixture when carburetor heat is applied?

A- A decrease in RPM results from the lean mixture.

B-The fuel/air mixture becomes richer.

C- The fuel/air mixture becomes leaner

Answer B

17.

An abnormally high engine oil temperature indication may be caused by

A- the oil level being too low.

B- operating with a too high viscosity oil.

C- operating with an excessively rich mixture.

Answer A

18.

What is one procedure to aid in cooling an engine that is overheating?

A- Enrichen the fuel mixture.

B- Increase the RPM.

C-Reduce the airspeed.

Answer A

19.

For internal cooling, reciprocating aircraft engines are especially dependent on

A- a properly functioning thermostat.

B- air flowing over the exhaust manifold.

C- the circulation of lubricating oil.

Answer C

20.

If the grade of fuel used in an aircraft engine is lower than specified for the engine, it will most likely cause

A- a mixture of fuel and air that is not uniform in all cylinders.

B- lower cylinder head temperatures.

C- detonation.

Answer C

21.

Detonation occurs in a reciprocating aircraft engine when

A- the spark plugs are fouled or shorted out or the wiring is defective.

B- hot spots in the combustion chamber ignite the fuel/ air mixture in advance of normal ignition.

C- the unburned charge in the cylinders explodes instead of burning normally

Answer C

22.

Detonation may occur at high-power settings when

A- the fuel mixture ignites instantaneously instead of burning progressively and evenly.

B- an excessively rich fuel mixture causes an explosive gain in power.

C- the fuel mixture is ignited too early by hot carbon deposits in the cylinder.

Answer A

23.

If a pilot suspects that the engine (with a fixed-pitch propeller) is detonating during climb-out after takeoff, the initial corrective action to take would be to

A- lean the mixture.

B- lower the nose slightly to increase airspeed.

C- apply carburetor heat.

Answer B

24.

The uncontrolled firing of the fuel/air charge in advance of normal spark ignition is known as

A- combustion.

B- pre-ignition.

C- detonation.

Answer B

25.

Which would most likely cause the cylinder head temperature and engine oil temperature gauges to exceed their normal operating ranges?

A- Using fuel that has a lower-than-specified fuel rating.

B- Using fuel that has a higher-than-specified fuel rating.

C- Operating with higher-than-normal oil pressure.

Answer A

26.

What type fuel can be substituted for an aircraft if the recommended octane is not available?

A- The next higher octane aviation gas.

B- The next lower octane aviation gas.

C- Unleaded automotive gas of the same octane rating.

Answer A

27. Filling the fuel tanks after the last flight of the day is considered a good operating procedure because this will

A- force any existing water to the top of the tank away from the fuel lines to the engine.

B- prevent expansion of the fuel by eliminating airspace in the tanks.

C- prevent moisture condensation by eliminating airspace in the tanks.

Answer C

28.

For internal cooling, reciprocating aircraft engines are especially dependent on

A- a properly functioning thermostat.

B- air flowing over the exhaust manifold.

C- the circulation of lubricating oil.

Answer C

29.

An abnormally high engine oil temperature indication may be caused by

A- the oil level being too low.

B- operating with a too high viscosity oil.

C- operating with an excessively rich mixture.

Answer A

30.

A precaution for the operation of an engine equipped with a constant-speed propeller is to

A- avoid high RPM settings with high manifold pressure.

B- avoid high manifold pressure settings with low RPM.

C- always use a rich mixture with high RPM settings.

Answer B

31.

What is one procedure to aid in cooling an engine that is overheating?

A- Enrichen the fuel mixture.

B- Increase the RPM.

C-Reduce the airspeed.

Answer A

32.

What action can a pilot take to aid in cooling an engine that is overheating during a climb?

A- Reduce rate of climb and increase airspeed.

B- Reduce climb speed and increase RPM.

C- Increase climb speed and increase RPM.

Answer A

33.

How is engine operation controlled on an engine equipped with a constant-speed propeller?

A- The throttle controls power output as registered on the manifold pressure gauge and the propeller control regulates engine RPM.

B- The throttle controls power output as registered on the manifold pressure gauge and the propeller control regulates a constant blade angle.

C- The throttle controls engine RPM as registered on the tachometer and the mixture control regulates the power output.

Answer A

34.

What is an advantage of a constant-speed propeller?

A- Permits the pilot to select and maintain a desired cruising speed.

B- Permits the pilot to select the blade angle for the most efficient performance.

C- Provides a smoother operation with stable RPM and eliminates vibrations.

Answer B

35.

What should be the first action after starting an aircraft engine?

A-Adjust for proper RPM and check for desired indications on the engine gauges.

B- Place the magneto or ignition switch momentarily in the OFF position to check for proper grounding.

C- Test each brake and the parking brake.

Answer A

36.

Should it become necessary to handprop an airplane engine, it is extremely important that a competent pilot

A- call "contact" before touching the propeller.

B- be at the controls in the cockpit.

C- be in the cockpit and call out all commands.

Answer B

37.

Excessively high engine temperatures, either in the air or on the ground, will

A- increase fuel consumption and may increase power due to the increased heat.

B- result in damage to heat-conducting hoses and warping of cylinder cooling fans.

C- cause loss of power, excessive oil consumption, and possible permanent internal engine damage.

Answer C

38.

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

A- fuel strainer drain.

B- lowest point in the fuel system.

C- fuel strainer drain and the fuel tank sumps.

Answer C

39.

Which V-speed represents maneuvering speed?

A-Va.

B– Vlo.

C- Vne

Answer A

40.

If an altimeter setting is not available before flight, to which altitude should the pilot adjust the altimeter?

A- The elevation of the nearest airport corrected to mean sea level.

B- The elevation of the departure area.

C- Pressure altitude corrected for nonstandard temperature.

Answer B

41.

Prior to takeoff, the altimeter should be set to which altitude or altimeter setting?

A- The current local altimeter setting, if available, or the departure airport elevation.

B- The corrected density altitude of the departure airport.

C-The corrected pressure altitude for the departure airport.

Answer A

42.

If the pitot tube and outside static vents become clogged, which instruments would be affected?

A- The altimeter, airspeed indicator, and tum-and-slip indicator.

B- The altimeter, airspeed indicator, and vertical speed indicator.

C- The altimeter, attitude indicator, and tum-and-slip indicator.

Answer B

43.

Which instrument will become inoperative if the pitot tube becomes clogged?

A- Altimeter.

B- Vertical speed.

C- Airspeed Indicator

Answer C

44.

Which instrument(s) will become inoperative if the static vents become clogged?

A- Airspeed only.

B-Altimeter only.

C-Airspeed, altimeter, and vertical speed.

Answer C

45.

Altimeter setting is the value to which the barometric pressure scale of the altimeter is set so the altimeter indicates

A- calibrated altitude at field elevation.

B- absolute altitude at field elevation.

C- true altitude at field elevation.

Answer C

46.

How do variations in temperature affect the altimeter?

A- Pressure levels are raised on warm days and the indicated altitude is lower than true altitude.

B- Higher temperatures expand the pressure levels and the indicated altitude is higher than true altitude.

C- Lower temperatures lower the pressure levels and the indicated altitude is lower than true altitude.

Answer A

47.

What is true altitude?

A- The vertical distance of the aircraft above sea level.

B- The vertical distance of the aircraft above the surface.

C- The height above the standard datum plane.

Answer A

48.

Which color identifies the normal flap operating range?

A- The lower limit of the white arc to the upper limit of the green arc.

B- The green arc.

C- The white arc.

Answer C

49.

Which marking identifies the never-exceed speed?

A- Upper limit of the green arc

B- Upper limit of the white arc

C- The red radial line

Answer C

50.

Which color identifies the power-off stalling speed with wing flaps and landing gear in the landing configuration?

A- Upper limit of the green arc.

B- Upper limit of the white arc.

C- Lower limit of the white arc.

Answer C

51.

What is the maximum structural cruising speed?

A-100KTS

B-165KTS

C-208KTS

Answer B This speed is indicated by the upper limit of the green arc, which in this case is 165 KTS.

52.

Which color identifies the power-off stalling speed in a specified configuration?

A- Upper limit of the green arc.

B- Upper limit of the white arc.

C- Lower limit of the green arc.

Answer C

53.

What is the maximum flaps-extended speed?

A- 58 KTS
B-100 KTS
C- 165 KTS

Answer B
54.
What is an important airspeed limitation that is not color coded on airspeed indicators?

A- Never-exceed speed.

B- Maximum structural cruising speed.

C- Maneuvering speed.

Answer C

55.

A turn coordinator provides an indication of the

A- movement of the aircraft about the yaw and roll axes.

B- angle of bank up to but not exceeding 30°.

C- attitude of the aircraft with reference to the longitudinal axis.

Answer A

56.

The proper adjustment to make on the attitude indicator during level flight is to align the

A- horizon bar to the level-flight indication.

B- horizon bar to the miniature airplane.

C- miniature airplane to the horizon bar.

Answer C

57.

Deviation in a magnetic compass is caused by the

A- presence of flaws in the permanent magnets of the compass.

B- difference in the location between true north and magnetic north.

C- magnetic fields within the aircraft distorting the lines of magnetic force.

Answer C

58.

In the Northern Hemisphere, a magnetic compass will normally indicate initially a turn toward the west if

A- a left turn is entered from a north heading.

B- a right turn is entered from a north heading.

C- an aircraft is accelerated while on a north heading.

Answer B

59.

In the Northern Hemisphere, if an aircraft is accelerated or decelerated, the magnetic compass will normally indicate

A- a turn momentarily.

B- correctly when on a north or south heading.

C- a turn toward the south aircraft is accelerated while on an east or west heading.

Answer B

60.

In the Northern Hemisphere, the magnetic compass will normally indicate a turn toward the south when

A- a left turn is entered from an east heading.

B- a right turn is entered from a west heading.

C- the aircraft is decelerated while on a west heading.

Answer C

61.

During flight, when are the indications of a magnetic compass accurate?

A- Only in straight-and-level unaccelerated flight.

B-As long as the airspeed is constant.

C- During turns if the bank does not exceed 18°.

Answer A

62.

If the outside air temperature (OAT) at a given altitude is warmer than standard, the density altitude is

A- equal to pressure altitude.

B- lower than pressure altitude.

C- higher than pressure altitude.

Answer C

63.

In the Northern Hemisphere, a magnetic compass will normally indicate a turn toward the north if

A- a right turn is entered from an east heading.

B- an aircraft is decelerated while on an east or west heading,

C- an aircraft is accelerated while on an east or west heading.

Answer C

64.

What are the standard temperature and pressure values for sea level?

A- 15°C and 29.92 inches Hg.

B- 59°C and 1013.2 millibars.

C- 59°F and 29.92 millibars.

Answer A

65.

If a pilot changes the altimeter setting from 30.11 to 29.96, what is the approximate change in indication?

A- Altimeter will indicate . 15 inches Hg higher.

B-Altimeter will indicate 150 feet higher.

C-Altimeter will indicate 150 feet lower.

Answer C Each .1 " change on the altimeter setting equates to about 100 feet. In this case, the change is .15 lower, or 150 feet.

66.

Under which condition will pressure altitude be equal to true altitude?

A- When the atmospheric pressure is 29.92 inches Hg.

B- When standard atmospheric conditions exist.

C- When indicated altitude is equal to the pressure altitude.

Answer B

67.

Under what condition is pressure altitude and density altitude the same value?

A-At sea level, when the temperature is 0°F.

B- When the altimeter has no installation error.

C- At standard temperature.

Answer C

68.

If a flight is made from an area of low pressure into an area of high pressure without the altimeter setting being adjusted, the altimeter will indicate

A- the actual altitude above sea level.

B- higher than the actual altitude above sea level.

C- lower than the actual altitude above sea level.

Answer C

69.

If a flight is made from an area of low pressure into an area of high pressure without the altimeter setting being adjusted, the altimeter will indicate

A- lower than the actual altitude above sea level.

B- higher than the actual altitude above sea level.

C- the actual altitude above sea level.

Answer B

70.

Under what condition will true altitude be lower than indicated altitude?

A- In colder than standard air temperature.

B- In warmer than standard air temperature.

C- When density altitude is higher than indicated altitude.

Answer A

71.

Which condition would cause the altimeter to indicate a lower altitude than true altitude?

A- Air temperature lower than standard.

B-Atmospheric pressure lower than standard.

C- Air temperature warmer than standard.

Answer C

72.

Which factor would tend to increase the density altitude at a given airport?

A- An increase in barometric pressure.

B- An increase in ambient temperature.

C-A decrease in relative humidity.

Answer B

73.

The angular difference between true north and magnetic north is

A- magnetic deviation.

B- magnetic variation.

C- compass acceleration error.

Answer B

74.

In the Northern Hemisphere, a magnetic compass will normally indicate a turn toward the north if

A- a left turn is entered from a west heading.

B- an aircraft is decelerated while on an east or west heading.

C- an aircraft is accelerated while on an east or west heading.

Answer C

75.

What should be the indication on the magnetic compass as you roll into a standard rate turn to the right from a south heading in the Northern Hemisphere?

A- The compass will initially indicate a turn to the left.

B- The compass will indicate a turn to the right, but at a faster rate than is actually occurring.

C- The compass will remain on south for a short time, then gradually catch up to the magnetic heading of the airplane.

Answer B

76.

When converting from true course to magnetic heading, a pilot should

A- subtract easterly variation and right wind correction angle.

B- add westerly variation and subtract left wind correction angle.

C- subtract westerly variation and add right wind correction angle.

Answer B Remember, "East is least, West is best" to recall that easterly variation is subtracted and westerly is added

77.

Deviation error of the magnetic compass is caused by
A-northerly turning error.

B- certain metals and electrical systems within the aircraft.

C- the difference in location of true north and magnetic north.

Answer B