

### Question block created by wizard

**This exam contains 52 questions**

- 1.** What is the approximate thermal efficiency of a piston engine?
  - a. 30 to 35%
  - b. 80 to 95%
  - c. 20 to 25%
  
- 2.** Actual power will be ..... than the power produced by the engine.
  - a. More
  - b. Less
  - c. Equal
  
- 3.** Compared to a petrol engine, diesel engines are:
  - a. Less fuel efficient.
  - b. More complex.
  - c. More reliable.
  
- 4.** Diesel engines have....
  - a. a simple ignition system.
  - b. no ignition system.
  - c. a complex ignition system.
  
- 5.** What is the correct cycle of a 4-stroke engine?
  - a. Compression - induction - power - exhaust
  - b. Induction - compression - power - exhaust
  - c. Exhaust - power - compression - induction
  
- 6.** What defines the cylinder size?
  - a. Distance between TDC and BDC and stroke
  - b. Bore and diameter
  - c. Bore and stroke

- 7.** What type of engine is also called a boxer engine?
- Radial engine.
  - In line engine.
  - Horizontal opposed.
- 8.** Which horsepower definition is the theoretical power of a piston engine?
- Shaft horsepower
  - Indicated horsepower
  - Brake horsepower
- 9.** Which of the three quantities has an effect on air humidity?
- Altitude
  - Temperature
  - Dew point
- 10.** What does the carburetor control?
- The density of air.
  - The amount of air.
  - The temperature of air.
- 11.** An extreme rich mixture can be identified by?
- Black smoke coming from the exhaust
  - Popping back through the carburettor (back-fire)
  - Blue smoke coming from the exhaust
- 12.** Oil is transferred within the crankcase by....
- internal oil channels.
  - external oil lines.
  - internal oil lines.
- 13.** Which of the following components is mounted **in** the cylinder head?
- Connecting rod
  - Exhaust valve
  - Camshaft

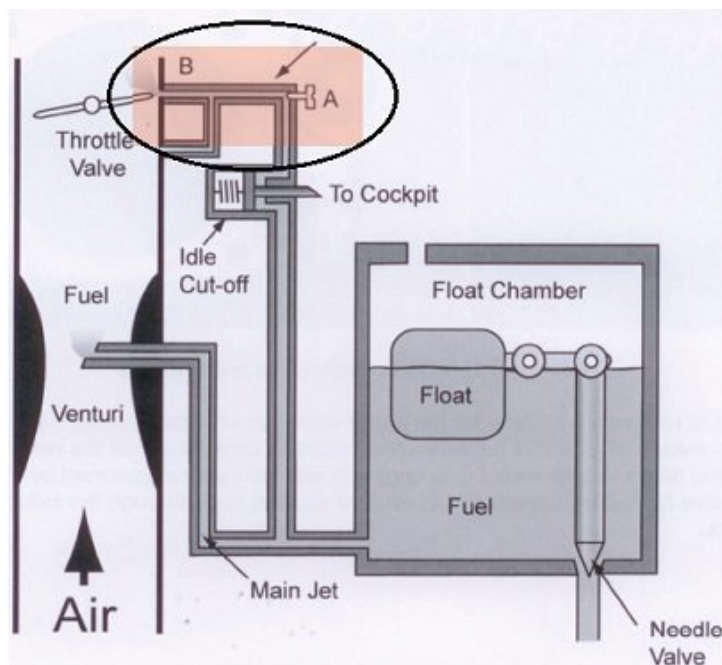
14. What type of propeller reduction gear would be used if there was enough room?

- a. Spur-pinion gear
- b. Bevel reduction gear
- c. Epicycle reduction gear

15. By which means is the fuel flow regulated in a float type carburetor?

- a. Throttle valve.
- b. Main jet.
- c. Needle valve.

16. What is the component highlighted in the figure below?



- a. Acceleration jet
- b. Main jet
- c. Idle jet

17. By which means is the carburetor accelerator pump activated?

- a. The throttle
- b. The throttle control
- c. The float chamber

**18.** What happens to a piston engine with fixed pitch propellor when icing occurs?

- a. Fuel pressure fluctuates
- b. Engine RPM drops
- c. Engine fails

**19.** How is ice build-up prevented on float type carburetor?

- a. Hot air from around the engine
- b. Hot exhaust gasses fed into the intake
- c. Electrical heating of the intake

**20.** What type of ice would normally form on the intake?

- a. Throttle ice.
- b. Impact ice.
- c. Evaporation ice.

**21.** The pressure of an airflow through a venture will:

- a. Stay the same
- b. Drop
- c. Increase

**22.** Which component is not part of a fuel injection throttle body?

- a. Float operated needle valve.
- b. Throttle valve.
- c. Venture.

**23.** The discharge nozzle in a fuel injection system is located....

- a. in front of the throttle valve.
- b. downstream of the throttle valve.
- c. inside the fuel pressure pomp.

**24.** Which component is not part of a FADEC?

- a. Engine control unit.
- b. Ignition system.
- c. Carburettor.

- 25.** Starting a FADEC engine is:
- harder than a carburettor engine
  - the same as a carburettor engine
  - easier than a carburettor engine
- 26.** A FADEC system communicates between other computers using what other type of system?
- Digital data bus.
  - Ethernet.
  - Analog wiring.
- 27.** When will a FADEC switch channels?
- It cannot switch channels
  - Automatically if the opposite channel has less faults.
  - Manually if the opposite channel has less faults
- 28.** What is used to energize the engaging lever for cranking the engine, in a pre-engaged starter?
- A flywheel.
  - A solenoid.
  - A manual engaging lever.
- 29.** The voltage induced in the secondary winding in a Magneto depends on?
- number of turns in the secondary winding
  - number of turns in the primary winding
  - the number of magnets
- 30.** What types of booster coil categories do we have?
- High and low tension coils
  - Primary and secondary coils
  - High and low voltage coils
- 31.** What are NACA ducts used for?
- Air scoop for cooling engine accessories
  - Air scoop for fresh air in the cabin
  - Air intake for cold air to the carburettor or injection system

- 32.** Which engine type is not air-cooled?
- a. Boxer engine.
  - b. Radial engine.
  - c. In-line engine.
- 33.** How is the cold air directed around the cylinders?
- a. By using multiple air intakes
  - b. By using a fan
  - c. By using deflectors
- 34.** What happens to the power of an aspirated engine when the aircraft climbs?
- a. The engine power will increase due to the colder air.
  - b. Nothing.
  - c. The engine power will decrease due to the lower atmospheric pressure.
- 35.** What drives the roots supercharger?
- a. An electric motor.
  - b. The engine directly.
  - c. The exhaust gasses via a turbine.
- 36.** By which input is the waste gate of a turbocharger positioned?
- a. Air pressure from the turbocharger.
  - b. Fuel pressure.
  - c. Engine lubrication system.
- 37.** When is a straight grade oil used?
- a. When a new engine needs breaking-in.
  - b. When the aircraft is operated in very cold environments.
  - c. When the engine is a 2-stroke engine.
- 38.** Which type of reciprocating engine fuel contains additives to prevent knocking?
- a. Diesel.
  - b. Jet Fuel.
  - c. Avgas.

- 39.** What is the danger when using MOGAS blended with bio-alcohol?
- Water will be absorbed by the alcohol and freeze when flying at high altitude.
  - The engine will overheat easily.
  - The fuel becomes very volatile.
- 40.** What is the disadvantage of splash oil distribution?
- Does not work well at all attitudes.
  - Does not work with dry-sump system.
  - Does not clean the engine.
- 41.** What is installed in the oil system to detect abnormal wear of metal components?
- Chip detector.
  - Oil dipstick.
  - Screen.
- 42.** What are the main component(s) used to clean lubrication oil?
- Oil filter and chip detector.
  - Oil filter.
  - Oil filter and oil cooler.
- 43.** The AC powered tachometer relates RPM to....
- frequency (Hertz)
  - voltage (Volts)
  - current (Amps)
- 44.** What type of temperature sensor is used for measuring the cylinder head temperature?
- Temperature probe
  - Thermocouple
  - Temperature bulb
- 45.** On a turbo charged engine, the fuel pressure will:
- Remain constant at all altitudes.
  - Increase with increasing altitude.
  - Decrease with increasing altitude.

- 46.** In what type of control system could you find walking beams?
- Teleflex control
  - Push-pull rod controls.
  - Bowden cable controls.
- 47.** What type of lines and hoses are typically found in a wing nacelle of the engine?
- Fuel, oil and hydraulic lines.
  - Fuel lines.
  - Fuel, hydraulic and pneumatic lines.
- 48.** What type of control systems are used to operate engine systems?
- Push-pull control rods.
  - Bowden cable.
  - Teleflex.
- 49.** What must first be done before doing a check during the engine ground run?
- Engine must be warmed up.
  - Engine must be cold.
  - Engine must be at full throttle.
- 50.** The engine ground check is done:
- After engine warm-up
  - Before engine warm-up
  - Before engine start
- 51.** On a light aircraft, what are the basic engine instruments?
- Tachometer - fuel flow meter - cylinder head temperature
  - Tachometer - oil quantity - oil temperature
  - Tachometer - oil pressure - oil temperature
- 52.** Which of the following, is part of an engine inspection?
- Open all cowlings.
  - Engine must be removed.
  - Engine must be dirty.