Question block created by wizard

This exam contains 60 questions

1. The principle of conservation of energy states that energy....

Choose the best answer.

o (a) cannot be destroyed.
o (b) cannot be created.

• (c) cannot be created or destroyed.

If choice c is selected set score to 1.

2. A loaded battery in a plane during cruise flight has....

Choose the best answer.

o (a) potential energy.
o (b) kinetic energy.

• (c) potential and kinetic energy.

If choice c is selected set score to 1.

3. To what other type of engine can the working cycle of a gas turbine engine best be compared?

• (a) Four - stroke piston engine.

o (b) Two - stroke piston engine.
o (c) Steam driven piston engine.

If choice a is selected set score to 1.

4. Which of the following statements is true about the mass airflow in a turbojet engine?

• (a) The mass airflow is the same from intake to exhaust.

o (b) The mass airflow is larger at the intake than at the exhaust.
o (c) The mass airflow is smaller at the exhaust than at the intake.

If choice a is selected set score to 1.

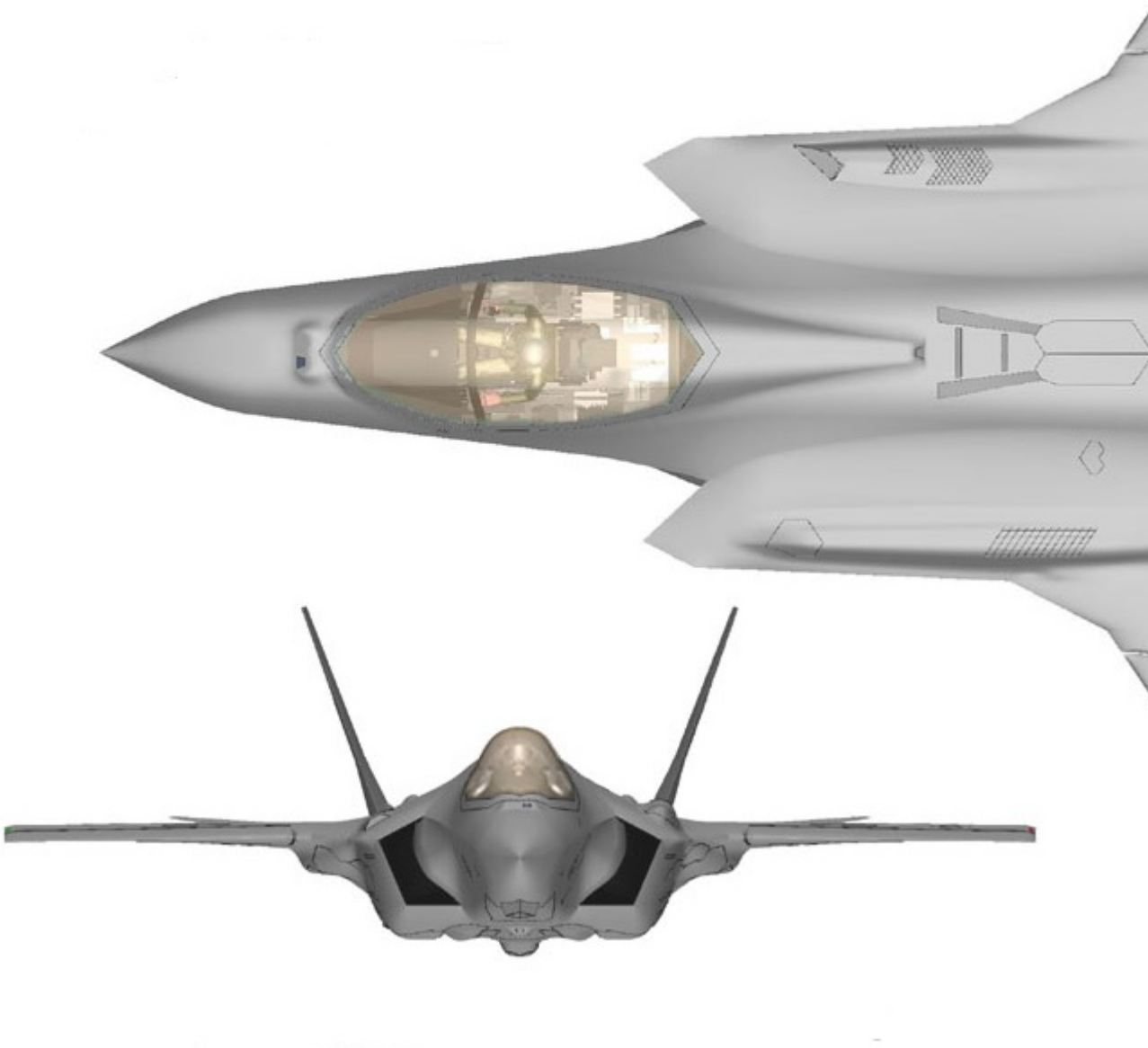
5. How is the effectiveness expressed for an engine intake?

• (a) Pressure recovery.

o (b) Mass airflow.
o (c) Engine power.

If choice a is selected set score to 1.

6. What type of intake is used on this aircraft with a single engine?



o (a) Bellmouth intake.

- (b) Bifurcated intake.

o (c) Side intake.

If choice b is selected set score to 1.

7. Why are methods like diverter, fence and bleed used?

o (a) To increase the efficiency of the intake at low (subsonic) speeds.
o (b) To restrict the amount of airflow at supersonic speeds.

- (c) To avoid boundary layer effect in the intake.

If choice c is selected set score to 1.

8. What is the disadvantage of a hot air anti-icing system?

- (a) There is a slight loss of power when the system is on

o (b) The system can not be switched off
o (c) The system does work when the engine is not running

If choice a is selected set score to 1.

9. What type of anti-icing system is generally installed on turboprop engines?

- (a) Electrical anti-ice

o (b) Pneumatic anti-ice
o (c) Hot air anti-ice

If choice a is selected set score to 1.

10. The impeller consists of a forged disc with radially disposed vanes.

This is....

o (a) an axial compressor.

- (b) a centrifugal compressor.

o (c) an axial turbine.

If choice b is selected set score to 1.

11. What happens to the air if forced through the axial flow compressor?

o (a) Pressure and temperature increase while velocity decreases.
o (b) Pressure, temperature and velocity decrease.

- (c) Pressure and temperature increase.

If choice c is selected set score to 1.

12. Fan balancing. If the spinner is replaced by a new one, the balance weights and screws....

- o (a) must always be replaced by new balance weights and screws.
- o (b) can be installed anywhere on the new spinner.
- (c) must be installed on the same location as on the old spinner.

If choice c is selected set score to 1.

13. What can be done to reduce the risk of stall or surging of the engine?

- o (a) Use a variable air intake.
- o (b) Adjust the fuel flow to the engine.
- (c) Use a compressor bleed control system.

If choice c is selected set score to 1.

14. What is the limiting factor on pressure ratio?

- (a) The air heating up as it is compressed.
- o (b) The structural strength of the engine.
- o (c) The speed of the compressor.

If choice a is selected set score to 1.

15. Where is the point of highest pressure?

- (a) Diffuser
- o (b) Exit of the high pressure compressor.
- o (c) Combustor.

If choice a is selected set score to 1.

16. Where is the compressor-diffuser located?

- (a) Between compressor and combustor.
- o (b) Between combustor and turbine.
- o (c) Between the low pressure and high pressure compressor.

If choice a is selected set score to 1.

17. How does the secondary air enter the combustion chamber?

- (a) Through holes in the wall of the flame tube.

- o (b) Via injectors in the flame tube.
- o (c) Through slots between the flame tube and fuel nozzles.

If choice a is selected set score to 1.

18. What is the result of the twist in the turbine blades, called stagger angle?

- o (a) Lower gas pressure and higher velocity at the tip.
- • (b) Same amount of work along the whole blade.
- o (c) Relative constant pressure at the tip and higher velocity.

If choice b is selected set score to 1.

19. A radial inflow turbine will be used for....

- o (a) Low by-pass engines.
- o (b) high by-pass engines.
- • (c) APU (auxillary power unit).

If choice c is selected set score to 1.

20. By using fir-tree fixing, the blade will be...

- o (a) free to move slightly at all times to eliminate stresses in the blade root
- • (b) free when the engine is stationary and stiffened in the root when the engine rotates
- o (c) fixed to the disk with no clearances.

If choice b is selected set score to 1.

21. The initial creep phase where creep occurs rapidly over a relatively short period is called?

- • (a) Primary creep.
- o (b) Dynamic creep.
- o (c) Secondary creep.

If choice a is selected set score to 1.

22. "It rotates at high speed and is subjected to large rotational stresses of the turbine blades."

What assembly is this?

- • (a) Turbine disc.
- o (b) Compressor disc
- o (c) Idler gear in gear box of the high pressure disc.

If choice a is selected set score to 1.

23. Where are the exhaust inner cone and support struts located?

- (a) Exhaust casing.

o (b) Fan casing.
o (c) Diffuser.

If choice a is selected set score to 1.

24. What is the function of a jet pipe?

- (a) To keep the exhaust gases clear of the aircraft.

o (b) Increase the speed of exhaust gas airflow to give the engine more thrust.
o (c) Slow down the exhaust gas airflow to increase the engine thrust.

If choice a is selected set score to 1.

25. When is an exhaust nozzle said to be choked?

When exhaust gas velocity is ....

o (a) lower than Mach 1.

- (b) Mach 1.

o (c) greater than Mach 1.

If choice b is selected set score to 1.

26. What are the most widely used fuels for jet engines

- (a) Jet-A and jet-A1.

o (b) Jet-A and jet-B.
o (c) Jet-B and JP4.

If choice a is selected set score to 1.

27. What are corrosion inhibitors used for in fuel?

o (a) Suppresses the catalytic effect of some metals.

- (b) Protects the metals in the fuel system.

o (c) Protects the fuel from some metals in the fuel system.

If choice b is selected set score to 1.

28. Can you use any power tools while working inside a fuel tank?

- (a) Yes, if they are spark free and the tank has been ventilated..

o (b) Yes, if the fuel tank has been ventilated and the tool is calibrated.
o (c) No

If choice a is selected set score to 1.

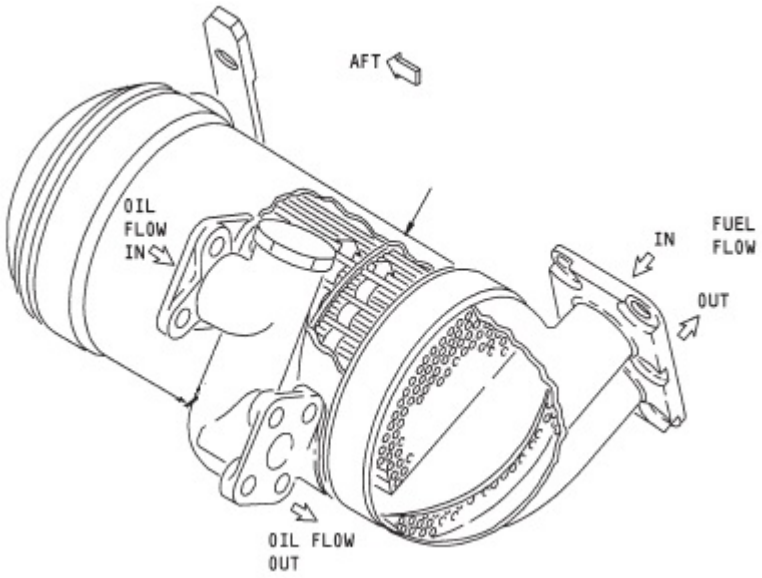
29. What type of filters are pleated screens and wafer screens?

o (a) Non-cleanable screen filters.
o (b) Scavenge screen filters.

- (c) Cleanable screen filters.

If choice c is selected set score to 1.

30. What component is shown in the Figure below?



- (a) Fuel/Oil heat exchanger

o (b) Oil tank
o (c) Hydraulic Reservoir

If choice a is selected set score to 1.

31. On a modern jet aircraft, power lever input to the EEC is given by....

o (a) cables or push-pull rods.

- (b) TLA resolvers.

- o (c) micro switches.

If choice b is selected set score to 1.

32. A FADEC consists of an electronic control unit, a hydromechanical unit and what other part(s)?

- (a) Sensors

- o (b) Fuel control unit
- o (c) Throttle

If choice a is selected set score to 1.

33. The primary control mode of the EEC is....

- o (a) N1.
- o (b) N2.

- (c) EPR.

If choice c is selected set score to 1.

34. What are the most used extinguishing agent(s) approved for aircraft?

- (a) Halon 1211 and Halon 1301.

- o (b) CO_2 (carbon oxide) and water.
- o (c) N (nitrogen).

If choice a is selected set score to 1.

35. The EEC alternator powers the....

- o (a) fuel pump.

- (b) EEC and provides N2 signal.

- o (c) aircraft electrical bus.

If choice b is selected set score to 1.

36. Where are the fuel nozzles located?

- o (a) Aft of the combustion chamber.
- o (b) Middle of the combustion chamber.

- (c) In front of the combustion chamber.

If choice c is selected set score to 1.

37. The turbine case cooling system cools...

- (a) high and low pressure turbine cases.

o (b) low pressure compressor case only.
o (c) high pressure turbine case only.

If choice a is selected set score to 1.

38. What powers the 2.5 bleed valve actuator?

o (a) Air pressure.

- (b) Fuel pressure.

o (c) Electrical power.

If choice b is selected set score to 1.

39. What are the two subsystems of the engine air system?

o (a) Bleed air system and compressor control.

- (b) Accessory cooling and compressor control.

o (c) Engine compartment cooling and compressor control.

If choice b is selected set score to 1.

40. What is the function of the compressor control system?

o (a) Ensure enough air is available for combustion.
o (b) Supplies the aircraft pneumatic system.

- (c) Prevent engine surge.

If choice c is selected set score to 1.

41. Name the type of starters in use today.

o (a) Electrical starter, starter generator.
o (b) Air starter, electrical starter.

- (c) Electrical starter, starter generator, air starter.

If choice c is selected set score to 1.

42. Which statement is true about idle speed?

- (a) Idle speed varies with altitude.

- (b) Idle speed keeps the same in any throttle position.
- (c) Idle speed is the same under any condition.

If choice a is selected set score to 1.

43. A modern capacitive ignition exciter generates....

- (a) 5 kV DC.
- (b) 10 kV DC.
- (c) 24 kV DC.

If choice c is selected set score to 1.

44. What is a risk of wet motoring?

- (a) The engine could start unexpectedly.
- (b) Fuel vapour exiting the engine.
- (c) Bearing damage.

If choice b is selected set score to 1.

45. Why is the EGT indication so important?

- (a) The temperature of the exhaust gas must be monitored to prevent damage to exhaust duct.
- (b) The temperature of the gasflow in the turbine must be monitored to prevent damage to the turbine blades.
- (c) The temperature in the combustor must be correct to ensure good engine performance.

If choice b is selected set score to 1.

46. There are primary and secondary engine instruments. Which one belongs to the primary engine instruments?

- (a) Fuel pressure indicator.
- (b) N2 Speed of the high pressure shaft.
- (c) Oil quantity indicator.

If choice b is selected set score to 1.

47. What is generally used to measure N2 speed?

- (a) Tachogenerator.

- (b) A gear box.
- (c) Mechanical speeddrive.

If choice a is selected set score to 1.

48. How do you call a helicopter turbine engine with an aerodynamically coupled output shaft?

- (a) A free power turbine engine.

- (b) A twin spool fan engine.
- (c) A triple spool fan engine.

If choice a is selected set score to 1.

49. When is a turboprop in overspeed condition?

- (a) When the actual engine speed is higher than the desired engine speed.

- (b) When the propeller speed is higher than the free turbine speed.
- (c) When the desired engine speed is higher than the actual engine speed.

If choice a is selected set score to 1.

50. The turboshaft is very similar to what other engine?

- (a) Turboprop

- (b) Turbofan
- (c) Turbojet

If choice a is selected set score to 1.

51. When is a gas turbine engine called a turboshaft?

When power ....

- (a) is delivered via a shaft to the propellor.
- (b) to the propellor is delivered via a power turbine.

- (c) is delivered via a shaft to something other than a propellor.

If choice c is selected set score to 1.

52. What is the prefered method to stop the APU?

- (a) Injected over-speed and over-temp.

- (b) Loss of RPM sensing.
- (c) ECU failure.

If choice a is selected set score to 1.

53. The APU normally provides...

- o (a) thrust, electric and pneumatic power.
- • (b) electric and pneumatic power.
- o (c) hydraulic, electric and pneumatic power.

If choice b is selected set score to 1.

54. What is another name for teleflex cable?

- • (a) Push-pull cable
- o (b) Data cable
- o (c) Multi-strand cable

If choice a is selected set score to 1.

55. In which area would flexible fluidlines be used?

- o (a) Areas where long runs are possible.
- • (b) High vibration area
- o (c) High temperature area

If choice b is selected set score to 1.

56. What is a negative point of a multi-strand cable system?

- o (a) Break easily.
- • (b) Frequent maintenance.
- o (c) Requires lots of force to move.

If choice b is selected set score to 1.

57. What is the advantage of a systron-donner fire detection system?

- • (a) A faulty detector will immediately trigger a warning.
- o (b) The system continues to work even if a sensor has broken.
- o (c) The system can work without electricity.

If choice a is selected set score to 1.

58. What type of gas is used in the systron-donner fire detector?

- (a) Helium

o (b) Nitrogen
o (c) Oxygen

If choice a is selected set score to 1.

59. Modern turbine engines are borescoped through...

- (a) borescope ports.

o (b) front and back of the engine.
o (c) bleed valves and bleed duct openings.

If choice a is selected set score to 1.

60. Damage on a fanblade can...

- (a) be repaired if the damage is within certain limits.

o (b) always be repaired.
o (c) never be repaired.

If choice a is selected set score to 1.

If assessment score is 75% to 100% Pass
If assessment score is 0% to 74% Fail