# Question block created by wizard

**This exam contains 72 questions.**

**1.** Which property of steel will improve, if there is an alloy formed between steel and molybdenum?

a. Corrosion resistance.
b. Heat resistance.
c. Heat- and corrosion resistance .

**2.** When 3% nickel is added to mild steel, it....

a. increases the strength and shock resistance of the steel.
b. increases corrosion resistance.
c. prevents temper brittleness.

**3.** The most common heat-treatment processes are....

a. annealing, normalizing, hardening and tempering.
b. limited to cold soaking processing.
c. annealing only.

**4.** To overcome the deficiencies of plain-carbon steels....

a. alloy steels have been developed.
b. alu alloys were developed.
c. sand blasting was included in their development.

**5.** What is the position of the specimen during an Izod impact test?

a. Vertical.
b. Both are possible.
c. Horizontal

**6.** Rotating fatigue test machines vary in design, but are generally based around the....

a. Scleroscope principle.
b. Wohler principle.
c. Macqueen principle.

**7.** The impact tests are normally carried out at a temperature of....

a. 20 ºC.

b. 25 ºC.
c. 15 ºC.

**8.** The ability of a material to resist elastic deformation when subjected to stress is described as....

a. hardness.
b. rigidity.
c. tongue and groove.

**9.** Bauxite is crushed and treated with caustic soda solution to produce....

a. aluminium combined with cadmium and water.
b. aluminium oxide combined with water.
c. aluminium and nickel.

**10.** This is an aluminium base alloy containing copper, magnesium, manganese and silicon. It is almost as strong as mild steel and is widely used in sheet form. What metal is this?

a. Copper.
b. Magnesium.
c. Duralumin.

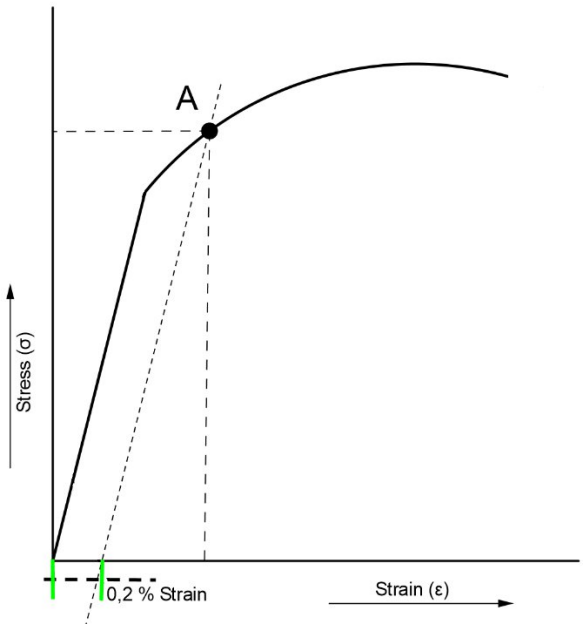
**11.** To increase the strength of an aluminium alloy it must be subjected to....

a. only mechanically worked.
b. heat treatment or mechanical working.
c. cooled very quickly.

**12.** When adding zinc as alloying elements to aluminium. What is the group of aluminium alloys?

a. 6xxx alloys.
b. 5xxx alloys.
c. 7xxx alloys.

**13.** In a tension strain diagram for steel we have a yield stress point.




What is the name of this point at a non-ferro metal?

a. Elasticity point.
b. Ultimate stress point.
c. Offset yield point.

**14.** What is an advantage of Carbon Fibre Reinforced products?

a. It is very easy to shape or mould.
b. Considerable weight savings over conventional materials.
c. Can be used at very high temperatures.

**15.** Carbon fibre....

a. both answers are correct.
b. has a higher impact resistance than aluminium.
c. is lighter and stiffer than fibre glass.

**16.** Controlled ventilation, protective clothing, and anti-fire/explosion particles are absolutely essential when working with....

a. metal alloy development.
b. adhesives and sealants.
c. rubber substances.

**17.** What kind of stress do adhesive joints experience?

a. Compressive strain.
b. Pressure.
c. Peel.

**18.** Ideally, composite components should be fully identified before a repair is performed.

Where can the aircraft technician find the data of ply orientation, core ribbon direction etc.?

a. Aircraft maintenance manual.
b. Structural repair manual.
c. Parts catalogue inventory.

**19.** After paint removal, additional damage assessment is performed, because the hidden damage now becomes more apparent.

What must be done?

a. Internal damage is allowed but limited to 20 percent.
b. A tap test has to be performed.
c. All damaged material must be removed and repaired in accordance with SRM.

**20.** To make a satisfactory bonded joint you must....

a. freshly cut quality wood just before bonding the surfaces, these surfaces must be porous surfaces for adhesive to attach.
b. wet the wood of the surfaces to prior to applying the adhesive.
c. spread the adhesive in a thin, even layer on both surfaces to be joined.

**21.** Testing a wood glue connection, when is the glue connection acceptable?

a. The glue connection is not getting thinner during the test.
b. If it holds for 30 minutes.
c. The wood fibres will break and not the glue line.

**22.** Inspection access is provided to every control bell cranks, drag-wire junction, cable guide, pulley, wing fitting. These access points are referred to as....

a. inspection rings.
b. metal stress plates.
c. fabric windows.

**23.** Fabric openings that cannot be repaired by closing with stitches may be repaired....

a. by replacement of the complete skin fabric surface.
b. with a new fabric section.
c. with a wooden insert.

**24.** The effect on corrosion by increasing the temperature is....

a. a decrease in the rate of oxidation of a metal.
b. an increase in the rate of oxidation of a metal.
c. a stabilization of oxidation of a metal.

**25.** Stress corrosion cracking is a process caused by....

a. a corrosive environment.
b. the combined action of a sustained tensile stress and a corrosive environment.
c. low applied service loads.

**26.** How do we call the kind of corrosion between two different metals in contact with each other and where moisture is present?

a. Exfoliation corrosion.
b. Dissimilar metal corrosion.
c. Inter-granular corrosion.

**27.** What type of corrosion develops if a steel bolt is in contact with an aluminium alloy?

a. Exfoliation corrosion.
b. Fretting corrosion.
c. Galvanic corrosion.

**28.** What is the most common cause of corrosion?

a. Inner layers of metal bonded layer being of different strength.
b. Splitting of end grain between metal layers.
c. Climatic, environmental conditions under which the aircraft is operated.

**29.** Factors affecting corrosion. The worst conditions would exist in a....

a. dry and cool environment.
b. hot and wet environment.
c. quick changes in temperature and dry environment.

**30.** What material is highly corrosion-resistant but should be insulated from other metals?

a. Titanium.
b. Copper.
c. Iron.

**31.** The most common corrosion on steel is recognisable by....

a. general etching of the surface and a black deposit.
b. corrosion products are white and voluminous.
c. red rust of iron.

**32.** American national fine is abbreviated as....

a. USNF
b. ANF
c. UNF

**33.** The nominal diameter of a thread is the....

a. minor diameter.
b. diameter equal to the external diameter of the threads.
c. diameter equal to the internal diameter of the threads.

**34.** A standard hexagonal nut with a plastic insert is....

a. a fastener snap nut.
b. a nyloc nut.
c. a term used to describe a lock nut which has a prevailing torque.

**35.** What is the thread angle of the British standard Whitworth thread?

a. 50º
b. 55º
c. 60º

**36.** DD in a material identification means....

a. double drilled.
b. aluminium alloy.
c. diameter.

**37.** AN bolts can have one of the following head styles....

a. trapezium and triangle.
b. hook and plane.
c. hexagon head, clevis or eyebolt.

**38.** A fillister head screw has....

a. wire lock drill holes.
b. self-locking slots.
c. no lock wire drill holes.

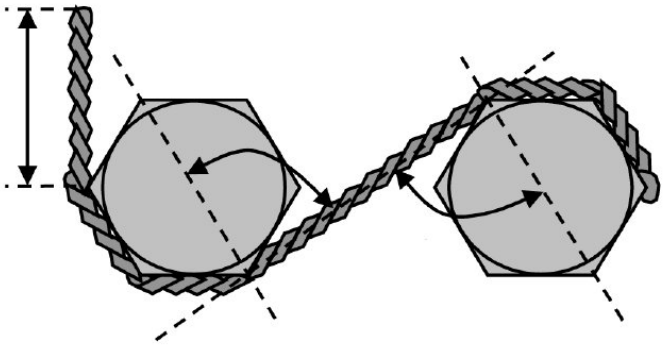
**39.** A stud should be fitted with a....

a. drill box.
b. stud box.
c. torque box.

**40.** Taper pins are usually made of....

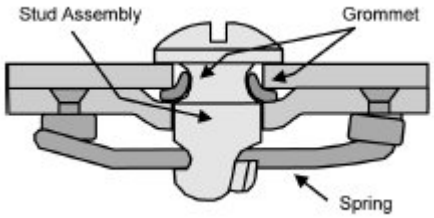
a. cadmium-plated steel.
b. aluminium alloy.
c. high-tensile steel.

**41.** The wire locking below is....



a. faulty.
b. could be improved.
c. correct.

**42.** The quick-release fastener shown below is....




a. a dzus fastener.
b. a camloc fastener
c. an oddie fastener.

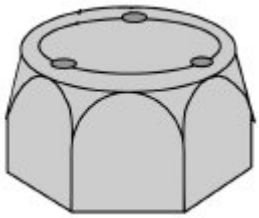
**43.** Which figure shows a palnut?

a. 

b. 

c. 

**44.** Peening is sometimes applied to nuts and bolts (see figure below). Why is this?

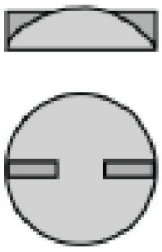


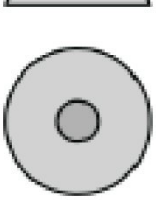
a. To prevent the nut from loosening itself.
b. To mark where the nut should be.
c. To indicate which number the nut has.

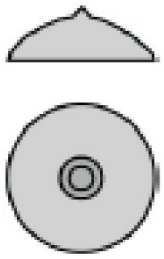
**45.** What is the most used angle of a countersunk rivet?

a. 78°
b. 100°
c. 120°

**46.** Which figure shows an AD nail?

a. 

b. 

c. 

**47.** In what kind of force it is best to use a rivet?

a. Shear forces.
b. Pressure forces.
c. Tension forces.

**48.** Most common pipes / lines / tubes on commercial aircrafts are?

a. Copper Pipes
b. Aluminium-alloy and corrosion-resistant steel lines.
c. Steel pipes

**49.** Low pressure hoses are used in....

a. vacuum systems.
b. hydraulic systems.
c. flexible pipes.

**50.** Replacement fluid lines must be of the same....

a. size and material as the original line.
b. size as the original line.
c. material as the original line.

**51.** What is a feature of an AN-fitting?

a. A shoulder between the end of the thread and the flare cone.
b. One half with a left-hand thread and the other half with a right-hand thread.
c. A thread along its entire length.

**52.** Universal fittings are also called....

a. Banjo
b. Saxo

c. Trumpet

**53.** What is the Leaf or Carriage spring?

a. 

b. 

c. 

**54.** How is the wire of a tension spring wound?

a. Open wounded.
b. Close wounded.
c. Torsion wounded.

**55.** Roller bearings are....

a. allow only one direction but they are similar to balls of steel.
b. cylindrical, tapered or spherical rollers running in suitably shaped tracks.
c. balls, sometimes caged, which rotate in grooved tracks.

**56.** Which of the following factors must be taken in consideration in the selection of the correct type of bearing for any particular part of a transmission system?

a. Oxygen level.

b. Altitude of operation.
c. Bearing life.

**57.** What type of bearings are used on high speed propellor shafts where stringent demands are made on accuracy?

a. Double row angular ball thrust bearings.
b. Roller.
c. Cone bearing.

**58.** What is the main function of thrust bearings?

They are used...

a. for axial and radial loads.
b. for radial loads at high speed.
c. for heavy axial loads at low speed.

**59.** Gears are named according to their....

a. angle of intersection of the axis and the shape of their teeth.
b. purpose; example drive gear.
c. size and shape of their driving source.

**60.** What is the most important difference between ordinary and epicyclical gear trains?

a. Direction of rotation, an epicyclical is clockwise and an ordinary is anti-clockwise.
b. Speed of rotation, is high on ordinary gear trains and low on epicyclical.
c. Input- and output axis of epicyclical are on the same centerline.

**61.** What is the direction of rotation if there is one idler gear between two gears?

a. Clockwise.
b. Counter clockwise.
c. The same.

**62.** Which flight controls are operated with chain and sprockets?

a. Aileron trim
b. Main Landing Gear extension
c. Flap screw drives

**63.** The construction of the control cable is determined by....

a. the number of strands it contains, and the number of wires in each strand.
b. only the length of the cable.
c. the number of strands it contains and the number of fittings attached to each strand.

**64.** What is usually fitted to both ends of a cable control system and can be adjusted?

a. Control stops.
b. Flared end fittings.
c. Woven splices.

**65.** Some large aircraft incorporate tension regulators in the control cable systems to maintain....

a. increases structural strength of the aircraft.
b. a given cable tension automatically.
c. tension to control surface to prevent vibration.

**66.** The Bowden system of control consists of....

a. a stainless steel wire, housed in a flexible sleeve or conduit.
b. stainless steel cable used direct spans and with only push function ability.
c. non-flex cable system.

**67.** A conductor composed of a group of single solid wires stranded together to provide greater flexibility and enclosed by insulating material and outer protective covering.

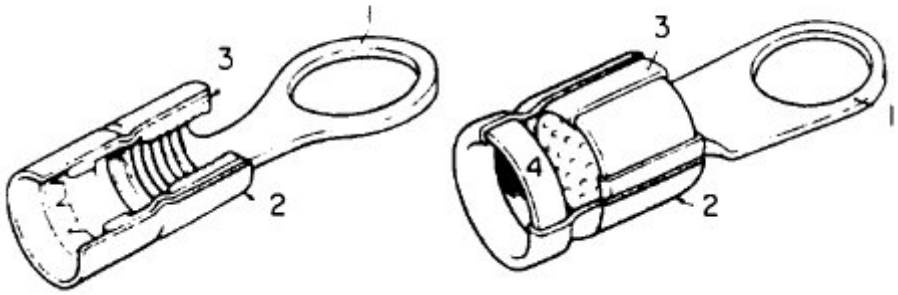
This best describes....

a. a coaxial cable.
b. an electrical wire.
c. an electrical cable.

**68.** What type of conductor cable is "a single insulated conductor with a metallic braided outer conductor shield"?

a. High tension type of cable.
b. Coaxial cable.
c. Insulated wire.

**69.** What are two principal components of a typical crimp termination?




a. Shell and plug.
b. Socket and shell.
c. Crimping barrel and tongue.

**70.** What is the purpose of the barrel in crimped terminals?

The barrel is designed to....

a. contain the wire bundle.
b. support the cable conductor do to vibration effect.
c. fit closely around the cable conductor so that after pressure has been applied a large number of contact points are made.

**71.** How can you detect the difference between front or rear release connectors?

a. Insulator of a front release is made of hard material.
b. Insulator of a rear release is made of soft material.
c. Insulator of a front release is made of soft material.

**72.** Explain the identification of the connector part number: MS24266 G 22 T 55p.

a. Stainless steel non-conductive connector, shell size 22 and threaded coupling type.
b. Aluminium conductive connector, shell size and threaded coupling type.
c. Titanium conductive connector with 22 connector pins and a bayonet coupling type.