



Headquarters Air Cadets Examination

569

Staff Cadet

33/4 Airframe:

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1. Use black or dark blue pen, NOT pencil.
2. Mark one answer per question with a cross.
3. If you wish to change an answer, cancel the original mark and mark another single answer.

A selected answer.

A cancelled answer.

Mark:

Name and Initials _____

Date of Exam _____

Date of Birth _____

Squadron/Unit _____

Wing _____

1 When an aircraft is moving through the air, the resistance to this motion caused by the air is called:

- a Drag
- b Resistivity
- c Load
- d Friction

2 The undercarriage serves two main purposes, one is to support the aircraft on the ground, the other is:

- a To provide aerodynamic braking
- b To absorb landing shocks
- c To exercise hydraulic systems
- d To improve lift on final approach

3 Many light aircraft have diagonal ties between the wing and fuselage - this type of construction is called:

- a DIAGONAL MONOPLANES
- b BRACED MONOPLANES
- c BRACED BIPLANES
- d TIED BIPLANES

4 When iron is alloyed with one of a range of other metals, the result is:

- a STEEL
- b MAGNESIUM
- c TITANIUM
- d ALUMINIUM

5 Titanium has only recently become widely available in airframe construction, so it is quite:

- a Malleable
- b Rare
- c Expensive
- d Heavy

6 Fibres of materials such as glass, carbon or kevlar inside a thermosetting resin such as epoxy are known as:

- a COMPOSTS
- b COMPOSITES
- c COMPOSITIONS
- d CAMPSITES

7 What is the fatigue life, in flying hours, of the BULLDOG aircraft:

- a 4500
- b 45 000
- c 5000
- d 50 000

8 Which of these is the best material for a radome:

- a High tensile steel
- b Magnesium alloy
- c Carbon steel
- d Fibre-glass

9 The ideal shape of a window in an aircraft fuselage is:

- a Round
- b Rectangular with rounded corners
- c Elliptical
- d Square

10 If a single jet engine is fitted to an aircraft it will normally be fitted:

- a In the nose
- b In the tail
- c At the rear of the fuselage
- d In the fuselage, near the centre of gravity

11 Why are aircraft engines placed as close as possible to the aircraft's centreline:

- a To prevent yaw when an engine fails
- b To reduce fuel weight in the outboard wing sections
- c To prevent roll when an engine fails
- d To prevent pitch when an engine fails

12 Nose-wheel or tricycle undercarriages have two main disadvantages, they are stronger and therefore heavier than tail-wheels and:

- a There is more tendency to float on landing
- b Damage is greater if a nose-wheel collapses
- c The pilot's view is impaired
- d The C of G is forward of the main wheels

13 Where are an aircraft's main wheels often stowed during flight:

- a In the ailerons
- b In the wings
- c In the tail
- d In the oleos

14 When brakes overheat they tend to:

- a Fade
- b Burn out
- c Dissipate
- d Break up

15 Which control surfaces are hinged to the wing rear spar:

- a FIN
- b ELEVATORS
- c RUDDER
- d AILERONS

16 The big advantage of fly-by-wire systems is that they eliminate the need for:

- a Computers
- b Wire connections
- c Control surfaces
- d Cables and linkages

17 Balance tabs, inset hinges and horn balances are all devices to help the pilot:

- a Move control surfaces
- b Warn approaching aircraft
- c Fly straight-and-level
- d Keep control surfaces central

18 What is the name given to the equipment which controls the initial stages of flight when an F-14 takes-off from a carrier deck:

- a AUTOPILOT
- b AILERONS
- c CATAPULT
- d FLIGHT RECORDER

19 Autopilot disturbance correctors are called:

- a Servo-motors
- b Service-motors
- c Serving-motors
- d Salvo-motors

20 Radar which maps the ground in front of the aircraft is called:

- a Ground-proximity radar
- b Ground-following radar
- c Terrain-guidance radar
- d Terrain-following radar

21 In order to reduce the risk of fire from hydraulic fluids they are usually:

- a INHABITED
- b INHIBITED
- c INUNDATED
- d INEBRIATED

22 De-icing of leading edges, tailplanes and engine intakes is often performed by using:

- a Pneumatic bleed air
- b Compressor pump air
- c Compressor bleed air
- d Conditioning air

23 What is the meaning of APU:

- a Aircraft Power Unit
- b Auxilliary Pump Unit
- c Active Pressurisation Unit
- d Auxilliary Power Unit

24 At high altitudes fuel in aircraft tanks is pressurised to prevent:

- a VENTING
- b EVAPORATION
- c BOILING
- d FREEZING

25 What instrument is represented in this diagram

- a Radar Altimeter
- b ASI
- c Attitude Director
- d VSI

