**QUESTIONS 1 - 40**

**TO BE ANSWERED**

# **BY BOTH GLIDER AND POWER APPLICANTS**

1. The is the term used to describe the complete structure of an airplane, including the fuel tanks and lines, but without engine(s) and instruments installed.

a. Airframe

b. Empennage

c. Fuselage

d. Canard

1. Some wings are constructed with no external bracing at all. These are known as

 wings.

a. Low wing

b. Cantilever

c. Monocoque

d. Internally braced wings

3. As the angle of attack of an airfoil is increased up to the point of stall, the centre of pressure will move .

a. Back

b. Forward

c. UP

d. Will not move

4. drag is caused by those parts of an aircraft which produce lift and therefore can not be completely eliminated.

a. Parasite

b. Form

c. Induced

d. Interference

5. should be used in order to gain the most altitude in a given amount of time.

a. Best angle of climb

b. Best rate of climb

c. Best climbing configuration

d. Best climb time

6. When gliding into a fairly strong headwind, greater distance may be covered over the ground if the speed is kept the best lift / drag speed.

a. Slightly slower than

b. Much slower than

c. Slightly faster than

d. At

7. The maximum speed at which an airplane can be safely operated in smooth air is called .

a. Maneuvering speed (Va)

b. Normal operating limit speed (Vno)

c. Max flap down speed (Vfe)

d. Never exceed speed (Vne)

8. In some ways a spiral dive resembles a spin. However, in a spin the airspeed is . In a spiral dive the airspeed is .

a. Constant and relatively low, increasingly rapid

b. Increasing rapidly, constant and relatively low

c. Constant and relatively low, remains the same

d. Increasing, decreasing

9. refers to the shape of the wing as seen from directly above.

a. Top view

b. Plan form

c. Form view

d. Wing view

10. The steeper the angle of bank for any given airspeed, .

a. The larger the radius of turn

b. The greater the rate of turn

c. The higher the stalling speed

d. Both b and c

11. In straight and level flight an airplane has a load factor of 1, or I G. A 60-degree bank turn produces a load factor of .

a. 2

b. 1.5

c. 3.86

d. 1.04

12. The aspect ratio of a wing is computed by dividing the span by the .

a. Camber

b. Length

c. Average chord

d. Weight

13. The of an airfoil is the curvature of the upper and lower surfaces.

a. Chord

b. Camber

c. Pressure

d. Span

14. is a term used to describe the direction of the airflow with respect to the wing.

a. Angle of attack

b. Angle of incidence

c. Relative airflow

d. Angle of deviation

15. The lift drag ratio is determined by;

a. Dividing the live load by the dead load

b. Dividing the lift coefficient by the drag coefficient

c. Dividing performance by endurance

d. Dividing the drag coefficient by the lift coefficient

16. Air flowing over the upper surface of the wing tends to flow .

a. Slower than air flowing under the wing

b. Faster than air flowing under the wing

c. Inward

d. Both b and c

17. Which of the following factors does not affect the stalling speed (IAS) of an airfoil.

a. C of G

b. Weight

c. Temperature

d. Flaps

18. The initial tendency of an aircraft to return to its original position is known as stability.

a. Neutral

b. Dynamic

c. Directional

d. Static

19. An aircraft loaded with the C of G too far aft will have tendency.

a. Nose up

b. Nose down

c. Stable

d. No effect

20. Most high wing aircraft are laterally stable because the wings are attached in a high position on the fuselage and because the weight is therefore low. When the aircraft is disturbed and one wing dips, the weight acts as a pendulum returning the aircraft to its original attitude. The cause of this stability is known as .

a. An anhedral

b. Precession

c. Sweepback

d. Keel effect

21. The most important property of the atmosphere is .

a. Mobility

b. Expansion

c. Compression

d. Upward air currents

22. From a standpoint of weather, is the most important component of the air.

a. Water vapor

b. Oxygen

c. Pollution

d. None of the above

23. The ICAO standard atmosphere for the continent of North America assumes .

a. The rate of decrease of temperature with height is 3 degrees/1,000 ft.

b. The air is a perfectly dry gas

c. A mean sea level pressure of 992 mb

d. A mean sea level temperature of 20 degrees Celsius

24. Warm air is than cold air and therefore tends to .

a. Less dense, rise

b. Less dense, sink

c. More dense, sink

d. More dense, rise

25. If adjusted for the current pressure, the altimeter will read the true elevation of the aerodrome .

a. Above mean ground level

b. Above sea level

c. As zero

d. Above the equator

26. Altostratus clouds fall into which category of clouds?

a. Low

b. Middle

c. High

d. Vertical development

27. A sea breeze occurs during the and the wind blows from the to the .

a. Day, land, water

b. Day, water, land

c. Night, land, water

d. Night, water, land

28. In a climb from the surface to several thousand feet AGL, the wind will and .

a. Back and decrease

b. Back and increase

c. Veer and decrease

d. Veer and increase

29. Relative humidity:

a. Is the ratio of water vapor present in the air compared to the amount the same volume of air could hold if it were saturated.

b. Is the ratio of water vapor present in the air compared to the amount the same volume of air could hold if it were dry.

c. Decreases when a given mass of air is cooled and no new water vapor is added.

d. Both a and c

30. The rate of decrease of temperature with height is called the .

a. Lapse rate

b. Inversion rate

c. Isothermal rate

d. ITT rate

31. The mature stage of a thunderstorm cell is marked by the\_\_\_\_\_\_\_\_\_\_.

a. Appearance of the top of the cell spreading out into an anvil structure

b. Presence of heavy downdrafts

c. Appearance of precipitation on the ground

d. All of the above

32. Terminal Aviation Forecasts (TAFs) are issued times daily and are valid for .

a. 24, 90 minutes

b. 4, 24 hours

c. 6, 4 hours

d. 2, 36 hours

METAR CYPG 221600Z 11007KT 15SM BKN020 BKN035 09/04 A3005 RMK SC5SC2 SLP 182

TAF CYPG 221547Z 221616 VRB03KT P6SM SCT020 TEMPO 1622 BKN020 BECMG 2224 13012KT

FM0400Z 12015KT P6SM BKN010 OVC 100

FMO800Z 1201 SG25KT 2SM -PA BR OVC007 BECMG 0911 10025G3 5KT FMI400Z 20015G25KT 2SM -SHRA BR OVC008 RMK NXT FCST BY 19Z=

The next two questions are based on the above METAR.

33. With reference to the above METAR, the ceiling at Portage La Prairie at 160OZ, is:

a. Measured by aircraft at 3005 ft.

b. 1500 ft. 'in smog

c. Broken at 2000 ft.

d. Broken at 3500 in.

34. With reference to the above METAR, the wind is , with a dew point of .

a. 110 degrees true at 7 knots, 9 degrees Celsius

b. 110 degrees magnetic at 7 knots, 9 degrees Celsius

c. 110 degrees true at 7 knots, 4 degrees Celsius

d. 110 degrees magnetic at 7 knots, 4 degrees Celsius

The next two questions are based on the above TAF.

35. With reference to the above TAF, Portage La Prairie after 080OZ should be:

a. VFR with light rain

b. IFR with light rain with overcast ceiling of 700 ft.

c. VFR with 7000ft. ceiling

d. VFR with ceilings between 900 and 1100 ft.

36. The BR means:

a. Mist

b. Bright

c. Broken

d. Fog

37. A pilot shall not fly an aircraft within the period of hours after donating blood.

a. 12 hours

b. 48 hours

c. 24 hours

d. 8 hours

38. What is the VHF emergency frequency?

a. 123.45 MHz

b. 121.50 MHz

c. 243.00 MHz

d. 123.00 MHz

39. An aircraft flying VFR from west to east in Canada at an altitude below 18,000 ft ASL (but above 3000 ft.) shall fly .

a. Odd thousands

b. Even thousands

c. Odd thousands plus 500 ft.

d. Even thousands plus 500 ft.

## END OF EXAM FOR GLIDER APPLICANTS ONLY

40. Lines drawn on a chart joining places having the same variation are called .

a. Isobaric lines

b. isogonic lines

c. agonic lines

d. rhumb lines

41. On east and west headings, deceleration causes the compass to register a turn toward .

a. North

b. South

c. East

d. West

42. An airplane is 1 mile off of its intended track after travelling 30 miles. The error in the track is approximately .

a. 1 degree

b. 2 degrees

c. 3 degrees

d. 4 degrees

43. The scale on a VFR navigation chart (VNC series) is .

a. 1:50,000

b. 1:250,000

c. 1:500,000

d. 1:1,000,000

44. A rhumb line is .

a. A curved line on the surface of the earth, cutting all the meridians it meets at the same angle

b. A straight line drawn between any two points on the Mercator Projection map

c. A straight line drawn between any two points on a Lambert Conformal Conic Projection map

d. Both a and b

45. Given: Magnetic Track 090 degrees, Wind 270 degrees Magnetic at 20 knots, True Airspeed 100 knots, Trip Distance 300 nautical miles, the estimated time enroute is:

a. 2 hours 30 minutes

b. 3 hours

c. 3 hours 45 minutes

d. 2 hours 45 minutes

46. Which of the following is not a requirement of good oil?

a. Low pour point

b. High flash point

c. Low flash point

d. Low carbon content

47. Most aircraft piston engines are shut off by:

a. Moving the mixture control to the Idle Cut-Off position.

b. Turning the ignition key to the Off position.

c. Moving the mixture control to Full Rich.

d. Moving the throttle to the Fuel Cut-Off position.

48. If the proper grade of fuel is not available, and the engine must be operated, the pilot should .

a. Take the bus

b. Use the next lowest grade

c. Use the next highest grade

d. Use automobile gasoline

49. When carburetor heat is applied to an engine with carburetor ice the initial response is:

a. An increase in RPM

b. A decrease of exhaust gas temperature

c. There is no indication

d. A decrease in R.PM

50. Under certain moist atmospheric conditions, it is possible for Ice to form in the induction system, with ambient air temperatures ranging from to .

a. -30 to +5 degrees Celsius

b. - 1 5 to + 1 5 degrees Celsius

c . -5 to +5 degrees Celsius

d. -5 to +30 degrees Celsius

## END OF EXAM