

QUESTIONS 1 - 40**TO BE ANSWERED****BY BOTH GLIDER AND POWER APPLICANTS**

1. A _____ is an adjustable tab either fixed or hinged to a control surface that helps the pilot by eliminating the need to exert excessive pressure on the flight controls during the various phases of flight.
 - a. Hinge tab
 - b. Cowl tab
 - c. Trim tab
 - d. Control tab

2. The _____ run from the leading to the trailing edge. They are cambered to form an airfoil section and their purpose is to give the wing its shape and to provide a framework to which the covering is fastened.
 - a. Compression struts
 - b. Drag wires
 - c. Girders
 - d. Ribs

3. Spoilers are devices fitted to the wing, which increase _____ and decrease _____.
 - a. Drag, lift
 - b. Lift, drag
 - c. Weight, lift
 - d. Speed, drag

4. An aircraft will stall at any airspeed or attitude if the _____ is exceeded.
 - a. Critical angle of attack
 - b. Centre of gravity
 - c. Best lift / drag ratio
 - d. Best angle of climb

5. Longitudinal stability is stability around the lateral axis of the airplane and is called pitch stability. The two principle factors which influence longitudinal stability are _____ and _____.
 - a. Size and position of the horizontal stabilizer, the position of the C of G
 - b. Dihedral, the position of the C of G
 - c. Sweepback, the position of the C of R
 - d. Keel effect, the position of the fin

6. The only pitot static instrument that requires both a pitot pressure source and a static pressure source is the _____.
- a. Vertical speed indicator
 - b. Airspeed indicator
 - c. Altimeter
 - d. Attitude indicator
7. Induced drag _____ as the speed of an airplane increases.
- a. Decreases
 - b. Remains the same
 - c. Increases
 - d. None of the above
8. The tendency of an airplane in flight to remain in straight, level upright flight and return to this attitude if displaced without the corrective action of the pilot is called _____.
- a. Balance
 - b. Instability
 - c. Equilibrium
 - d. Stability
9. When thrust and drag are equal and opposite, the airplane is said to be in a state of _____.
- a. Balance
 - b. Equilibrium
 - c. Acceleration
 - d. Stability
10. As air passes over the wing towards the trailing edge, the air moves not only rearward but downward as well. This downward flow is called _____.
- a. Drag
 - b. Asymmetric thrust
 - c. Downwash
 - d. Down flow
11. If an aircraft is rolling to the right aileron drag will cause the aircraft to yaw to the _____.
- a. Left
 - b. Right
 - c. No adverse yaw will be present
 - d. None of the above

12. To relieve back stick pressure in a nose high attitude the trim tab must be in the _____ position.
- a. UP
 - b. Neutral
 - c. Retracted
 - d. Down
13. As an aircraft climbs and altitude increases the stalling speed (IAS) of an aircraft ____.
- a. Remains the same
 - b. Increases
 - c. Decreases
 - d. Depends on the indicated airspeed
14. The propeller usually rotates clockwise as seen from the pilot's seat. The reaction to the spinning propeller causes the aircraft to rotate counter clockwise to the left. This left turning tendency is referred to as _____.
- a. Asymmetric thrust
 - b. Slipstream
 - c. Torque
 - d. Precession
15. _____ is movement about the vertical or normal axis and is controlled by ____.
- a. Yaw, rudder
 - b. Roll, aileron
 - c. Pitch, elevator
 - d. Sideslip, elevator
16. The _____ is the angle that each wing makes with the horizontal. The purpose of this angle is to improve lateral stability.
- a. Angle of incidence
 - b. Dihedral angle
 - c. Sweepback angle
 - d. Dynamic angle

17. _____ is movement about the longitudinal axis and is controlled by _____.
- a. Yaw, rudder
 - b. Roll, aileron
 - c. Pitch elevator
 - d. Sideslip, elevator
18. The _____ is the angle at which the wing is permanently inclined to the longitudinal axis of the aircraft.
- a. Angle of incidence
 - b. Dihedral angle
 - c. Angle of attack
 - d. Deviation
19. Which of the following is not a method of classifying an airplane.
- a. Number and position of wings in relation to the fuselage
 - b. Passenger carrying capacity
 - c. Number of engines
 - d. Configuration of undercarriage
20. In a turn the force which tends to pull the aircraft to the outside of the turn is known as_____.
- a. Centripetal force
 - b. Turning force
 - c. Centrifugal force
 - d. Inertial force
21. An aerodrome forecast (TAF) is issued at least _____ times daily.
- a. 2
 - b. 4
 - c. 6
 - d. 8
22. In the Stratosphere the temperature remains constant at around _____ degrees Celsius.
- a. -10
 - b. +10
 - c. -56
 - d. +15

23. The top layer of the Troposphere is known as the _____.
- Ionosphere
 - Mesosphere
 - Argopause
 - Tropopause
24. A property of the atmosphere is _____.
- Mobility
 - Expansion
 - Compression
 - All of the above
25. A very thin high sheet cloud through which the sun or moon is visible, producing a halo effect is what type of cloud? _____.
- Cumulus
 - Stratus
 - Cirrostratus
 - Haze type cloud
26. When flying from an area of a high pressure to an area of low pressure, the altimeter will read _____ than what the aircraft is actually flying.
- Higher
 - Lower
 - The same
 - The difference
27. Buys Ballot's law states that in the Northern Hemisphere with your back to the wind, the center of the low is:
- To your left
 - To your right
 - Towards the rear
 - Towards the front
28. The closer the isobars on a weather map are the _____.
- Steeper the pressure gradient and weaker the winds
 - Steeper the pressure gradient and stronger the winds
 - Shallower the pressure gradient and weaker the winds
 - Shallower the pressure gradient and stronger the winds

29. What direction do the winds blow around a low pressure?
- Clockwise and outward
 - Clockwise and inward
 - Counterclockwise and outward
 - Counterclockwise and inward
30. The temperature to which air must be cooled at a constant pressure in order for it to become saturated is referred to as:
- Saturation point
 - Condensation point
 - Dew point
 - Freezing point
31. An air mass is a large section of the Troposphere with uniform properties of _____ and _____ in the _____.
- Temperature, pressure, horizontal
 - Pressure, moisture, horizontal
 - Temperature, moisture, horizontal
 - Temperature, moisture, vertical
32. The characteristics of a warm air mass include: _____
- Stability/smooth air/good visibility/strato-form cloud/steady type precipitation
 - Stability/smooth air/poor visibility/strato-form cloud/steady type precipitation
 - Stability/smooth air/poor visibility/strato-form cloud/shower type precipitation
 - Stability/turbulent air/poor visibility/strato-form cloud/shower type precipitation

METAR CYQY 221600Z 12007KT I5SM BKN021 BKN030 08/01 A3012 RMK SC6SC2 SLP202

TAF AMD CYQY 221509Z 221523 VRB03KT P6SM SCT015 BKN030 TEMPO 1521 5SM -SHRA BR BKN015 OVC030 BECMG 1618 10010KT RMK NXT FCST BY 17Z

The next 2 questions are based on the above METAR.

33. At 1600Z, the ceiling in Sydney (CYQY) was
- Broken at 3000 ft.
 - Broken at 2100 ft.
 - Measured by aircraft by 3012 ft.
 - Strato cumulus clouds at 600 ft.
34. The wind speed and direction at 1600Z is _____ and the dew point is _____.
- 120 degrees true at 7 knots, 8 degrees Celsius
 - 120 degrees magnetic at 7 knots, 8 degrees Celsius
 - 120 degrees true at 7 knots, 1 degree Celsius
 - 120 degrees magnetic at 7 knots, 1 degree Celsius

The following two questions are based on the above Terminal Area Forecast (TAF) for Sydney (YQY).

35. The above TAF is:
- a. Amended at 2215Z on the 9th day of the month and is valid from 2215Z to 2300Z.
 - b. Amended at 1509Z on the 22nd day of the month and is valid from 1500Z to 2300Z on the 22nd
 - c. Amended at 1509Z on the 22nd day of the month and is valid until 1700Z on the 22nd
 - d. None of the above.
36. Using both the METAR and TAF, the weather at 1600Z is:
- a. Better than forecasted
 - b. Worse than forecasted
 - c. The same as forecasted
 - d. IFR
37. Urgency signals are preceded by the word _____ repeated ____ times.
- a. Mayday, 3
 - b. Pan, 3
 - c. Mayday, 1
 - d. Pan, 1
38. A flashing green from the tower as seen by the pilot in the air means:
- a. Cleared for landing
 - b. Your gear is down and locked
 - c. You are cleared to taxi
 - d. Return for landing
39. A lack of sufficient oxygen in the blood cells or tissues is called
- a. Hernia
 - b. Somatograbic
 - c. Decompression illness (DCI)
 - d. Hypoxia

END OF EXAM FOR GLIDER APPLICANTS ONLY

40. The angle between true meridian and magnetic meridian is called _____.
- Compass heading
 - Deviation
 - Angle of incidence
 - Variation
41. A nautical mile is _____.
- Average length of one minute of latitude
 - Average length of one minute of longitude
 - 5280 feet
 - Both a and c
42. A compass heading is _____.
- Magnetic heading minus west deviation.
 - Magnetic heading plus west deviation.
 - True heading minus west deviation.
 - True heading plus west deviation.
43. On turns from north, northerly-turning error causes the compass to _____.
- Lead
 - Indicate correctly
 - Lag
 - None of the above
44. A great circle is _____.
- A straight line drawn on a Mercator Projection map
 - Same as a rhumb line
 - A straight line drawn on a Lambert Conformal Conic Projection map.
 - Both a and b
45. Given a track of 060 degrees True, with a variation of 23 degrees West and a deviation of 3 degrees East, then the compass heading is _____.
- 40
 - 86
 - 34
 - 80
46. The volume in the cylinder above the piston when it is at the bottom of the compression stroke compared to the volume when it has moved up to the top of the stroke is known as the _____.
- Power stroke
 - Horse power
 - Compression ratio
 - Radial ratio
47. Octane numbers go only as high as 100. Beyond this number the anti knock value of the fuel is expressed as a _____.
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- a. Octane rating
 - b. Viscosity level
 - c. Performance number
 - d. MOGAS indicator
48. The distance in feet a propeller travels forward in one revolution is called _____.
- a. Pitch
 - b. Roll
 - c. Inclination
 - d. Rate
49. In air cooled engines _____ are added to the cylinders to provide a greater area of metal to dissipate the heat.
- a. Fins
 - b. Trim tabs
 - c. Ribs
 - d. Hot plates
50. If the exhaust valve were to close 20 degrees late on the exhaust stroke this would mean that both valves would be open at the same time. When this occurs the valves are said to be _____.
- a. In sync
 - b. Fitted
 - c. Overlapped
 - d. Congruent

END OF EXAM