Instructor Written Test Questions

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Choose or fill in the one best answer. 80% is passing.
Please do not mark on this question sheet.

1) In the space below diagram our airfoil during normal flight including relative airflow, pressure areas etc to explain how it creates lift.

2) In the space below diagram our airfoil and draw the relative airflow/ turbulence areas to describe an airfoil at stall. (3pts)

3) Explain or diagram what happens as thrust from a motor is applied to the pilot in terms of AOA

4) What can cause surging

a) flying too deep in brakes
b) flying with no brakes
c) Abrupt changes in airspeed
d) erratic brake input
e) erratic throttle input.
f) choices a & b only
g) choices c, d & e

5) How does one effectively control excessive surging

a) Flying deep in the brakes
b) Flying with no brakes
c) Flying in smooth air
d) Properly timed use of the brakes and smooth use of the throttle
e) More brake and more throttle

6) Flying close to stall speed deep/ heavy in the brakes and then exiting a thermal can cause your glider to _____

7) What is the feature in all canopies that maintains pressure throughout the wing_____ (hint what are the holes in the ribs called)

8) When flying a wing that is large for the pilot (lightly loaded) the paragliders resistance to collapse

a) increases
b) decreases

9) When the wing loading increases or a smaller glider is used for the pilot the resistance to any initial collapse is (Circle the correct answer)

a) increased

b) decreased

10) While the severity of any ensuing recover is

a) increased

b) decreased

11) A gliders vertical speed rate is known as _____

12) A glider with a theoretical best glide glide of 3.O (3:1 in ratio form) means _____

13) 12.) The ratio of the wingspan to its average chord and the ratio of the span squared to the wing area represents the _____of the wing and often translates to the _____of the wing

14) A particular canopy keeps coming up in a horse shoe (tips first) what tips can you offer your student on correcting this problem?

_____
_____

15) What are some concerns about using very high performance wings (AFNOR comp/ DHV2-3 etc) with motors.

_____
_____
_____

16) The danger of being heavy on the brakes while being heavy on the throttle is _____

17) A certain glider has a tendency to overshoot your student during inflation what tips can you give them?

_____
_____

18) It has been light and variable all morning and your student is on final approach at 20 feet AGL when the wind sock indicates a large shift in direction > than 90 degree you should:

a) Tell them by radio to turn immediately into the wind

b) Have them continue on final and calmly indicate appropriate flare timing

c) Tell them to give full power and hope that they respond in time to go back up and make another approach.

19) The thermals have started to kick up a bit by the time your student is making the landing approach into the wind. At 100 feet you see them getting bumped around a bit and swaying side to side a bit…by radio or other means you should communicate

a) course corrections to compensate for each pendulum motion and indicating when to flare.

b) for them to add more brake and power and come in near stall point to dampen turbulence

c) for them to not let the minor sways concern them and to keep their arms up, gear down, and power off before indicating when to flare.

d) Have them push the speedbar to speed wing up then indicate when to flare

20) Circle appropriate responses to complete the grid

	High pressure system	Low pressure system
Winds	increasing or decreasing	Increasing or decreasing
Weather Stability	increasing or decreasing	Increasing or decreasing

21) You are at an east facing mountain site preparing to freefly or motor from the the bench which sits 300 feet above the valley floor. Behind you is a ridge which rises some 2500 feet above where you are now…as you look over the top of the ridge you notice some over-development which sees to be moving in your direction…what concerns might be applicable?

_____
_____

22) Explain the wind gradient as you would to your student (diagrams ok)

23) Your motor student has completed several tow flights both low and high and bunny flights and has developed exceptional ground handling skills in your assessment …he now expresses a desire to do his motor solo from an area with an obstructed takeoff zone and small approach and several hazards…what would you do or tell them:

_____
_____
_____

24) Your student has been unsuccessful in several attempts to motor launch while the wind has been calm all morning…it is now 1030 and 90 degrees out and clouds which were absent before have started to show up..what are some things to consider

_____
_____

25) The colder the air the _____dense it becomes and the warmer the air the _____dense it becomes

26) The higher the elevation you plan to take off from the _____dense the air will be; the lower the elevation the _____dense the air will be.

27) Explain a basic understanding of thermals including what they would look like if you could see them and some of the visual or other clues that indicate when they are present as you would to your student. (diagrams are fine)

_____
_____

28) Explain in words or diagrams the following terms
-Gust front

-Micro burst

-Over-development

-Virga

-AGL vs MSL

-Anabatic

-Catabatic

29) Explain with pictures or diagrams
-Wake turbulence

-Mechanical turbulence

-Thermal turbulence

30) The most effective way to teach safety to students is to

a) review with them all the stories of death and serious injury you have witnessed or heard about.
b) Include a lecture on safety with each lesson
c) Insist on absolute mastery to the same level as yourself before allowing a student to progress.
d) Practice safety yourself when piloting/choosing to fly (walk the walk).

31) What do you tell your student is the most effective and safest way to learn to fly to a specific point on the ground?

a) using weight shift turns
b) even use of brakes
c) using the motor to bring yourself low over a specific point
d) Looking at the spot you want to go to
e) Looking at he horizon
f) Using a GPS while flying

32) What explanation do you give to your student when they are on their second motor solo and want to carry the Vario, Gps, Egt/RPM meter, camera etc…etc.

_____
_____

33) Explain AOA as you would to a student (diagrams ok)

34) Having a student who is going for their first radio assisted low/ high tow, motor solo, or hill flight physically walking through a flight plan on the ground for the given conditions is important because:

_____
_____
_____

35) In which situations are you in violations of FAR part 103 circle all that apply

a) Flying low over desolate or rarely traveled areas.
b) Flying over fog when the ground is not easy to make out
c) Flying inside / through a decent sized cloud at 3400 feet
d) Flying over a football game at a local high school
e) Flying over your suburban neighborhood waving at you friends
f) Flying into dawn or dusk.
g) Flying on full moon at midnight with beacon lights flashing

36) Flying at a heading which is at an angle to your desired flight path over the ground is called crabbing..it is useful because (circle all that apply)

a) It is a fun way to sneak up on sunbathers

b) When you cant penetrate directly into the wind flying at an angle to the wind will allow you to penetrate forward

c) Your actual path over the ground will be a combined result of your flight path in the air and the airs large scale movement over the ground

d) Sometimes straight in approaches to LZ's are not possible and one must approach at a crab angle to make the LZ safely (like a narrow ocean beach site bordered with ocean in front and power-lines behind)

e) You must use it in order to ridge soar

f) You must use it in order to avoid turbulence

37) Your student has been watching other pilots use a lot of brake to get off the ground when motoring what are some things to discuss with them about this technique:

_____
_____

38) Your student with several motor solos comes to the field very proud of a some neat new modification made to their motor unit. What concerns might you express to them?

_____
_____

39) 38.) You notice one of your students with 10-20 motor solos has started flying low over non-landable terrain or hazards depending only on the motor to keep them safe….what would you suggest to them?

_____
_____
_____

40) Explain as you would to a student what to do to avoid brake lock or toggle line failure or what to do if suddenly airborne with brake lock or failure.

_____
_____

41) With most wings when you accelerate a wing with the use of trimmers or speedbar your student should be aware that its stability or safety _____ (increases or decreases)

42) Your student calls you from where they live explaining that they have found a way to ease no wind motor launches by having their friend tow them up behind a car with a rope and some form of tow release….what do you say?

_____
_____

43) If your student is wearing a reserve when flying what are some things to discuss with and teach in regards to premature release and what must be accomplished after a reserve deployment.

_____
_____
_____
_____

44) In the widely used easy to recall preflight 1,2,3,4 counting system the
1 is the _____
2 is the _____
3 is the _____ and
4 is the _____

45) Describe the correct procedure for correcting a collapse of 40% percent or larger….
of a wing as you would to your student.

_____
_____
_____
_____

46) Why is it a good idea to preflight /post-flight paragliders and motor units
_____
_____
_____

47) What are some ways to reduce the likely hood of line damage from a motor unit that you can pass on to your students.
_____
_____
_____

48) Why might a pocket check of your student's pockets or yourself be a good idea before motoring?
_____

49) Why do you desire to be a USPPA instructor?
_____
_____
_____