

Paragliding Association of Kenya

Student Name: _____
Date Exam written: _____
Instructor name: _____
Instructor Signature: _____
Date Marked: _____

PAK3 LICENSE THEORY TEST

You are encouraged to complete this paper as soon as convenient, during or after your course, whilst all information is still fresh in your mind.

The main resource for the Exam is the PAK TRAINING MANUAL

NOTE: This is an open book research examination. Please answer concisely. The test answers must be your own effort and should not be copied from others!

Draw sketches where required (distinguish between describe and/or illustrate).

Where sketches are provided, write/draw answers on them.

The test can be completed online and then printed to finish the drawings/illustrations and hard copy to be submitted to your instructor.

SECTION A: GENERAL

1. Why use a logbook? (3)

2. Accidents and Incidents:

- a) What is a reportable accident/incident? (1)

b) Why should accidents and incidents be reported? (1)

3. Which paragliding official(s) should be notified and the report be given to after an accident or incident? (1)

4. State the procedures for:

a) Flying at an established Club or other site, for the first time in your flying career, and at any other time. (3)

b) Attempting to establish a new site, which has never been flown before by anybody (4)

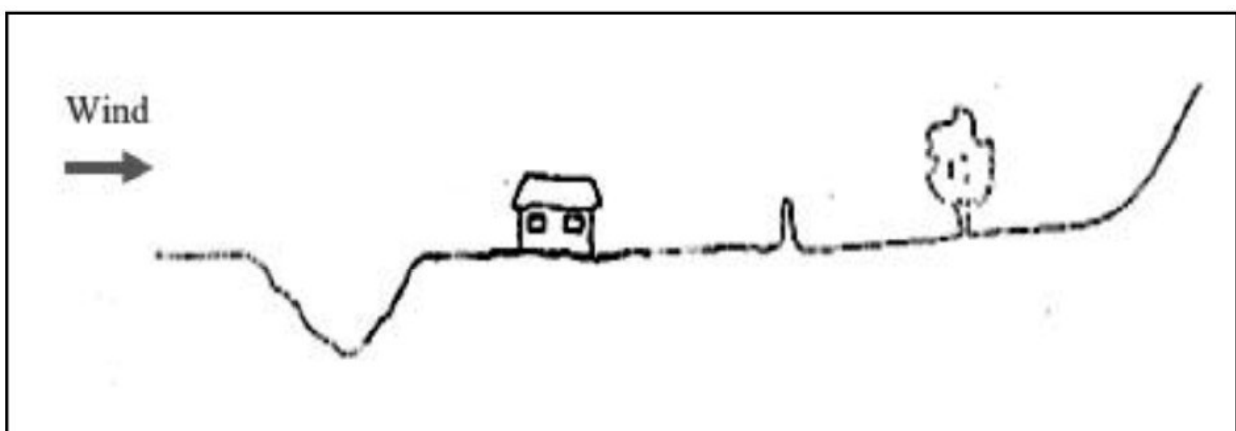
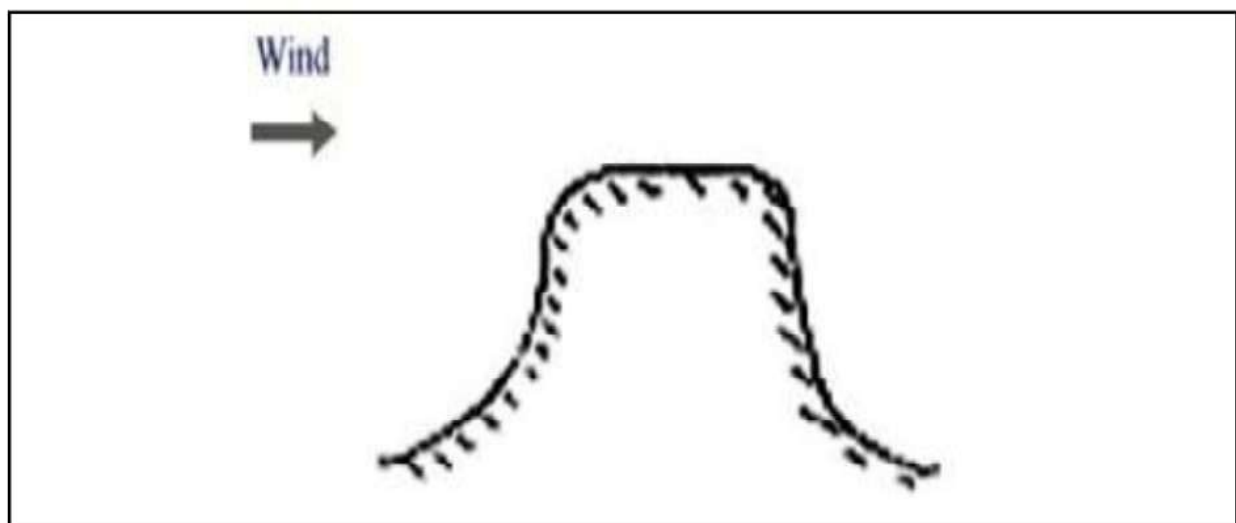
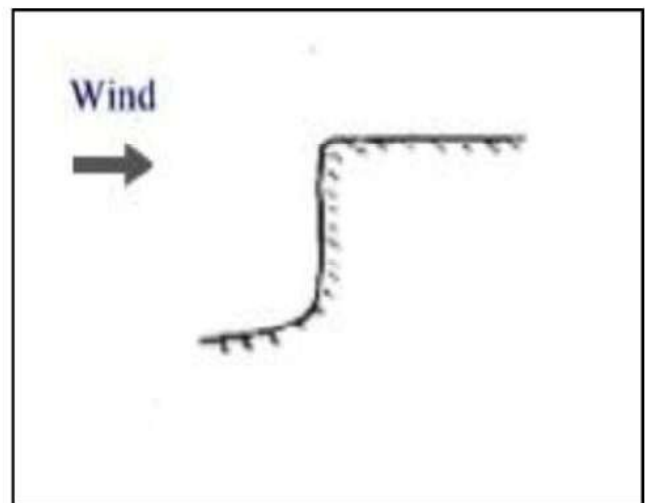
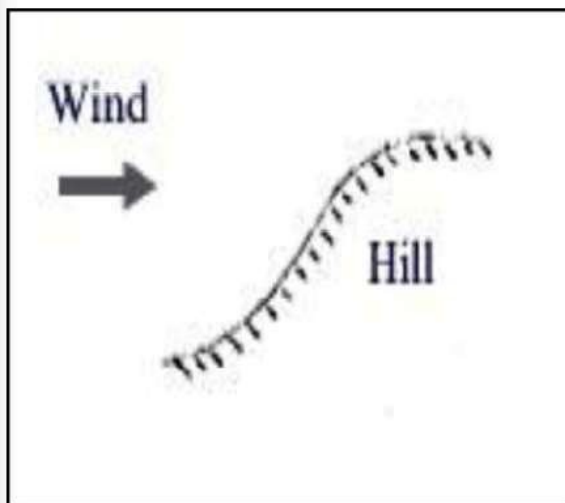
5. What are the two prevailing winds called in Kenya and their individual wind direction (2)

6. Why does the Paragliding Association of Kenya exist, and what are the advantages of being a member of (PAK) (5)

Section Total = [20]

SECTION B: AIRFLOW

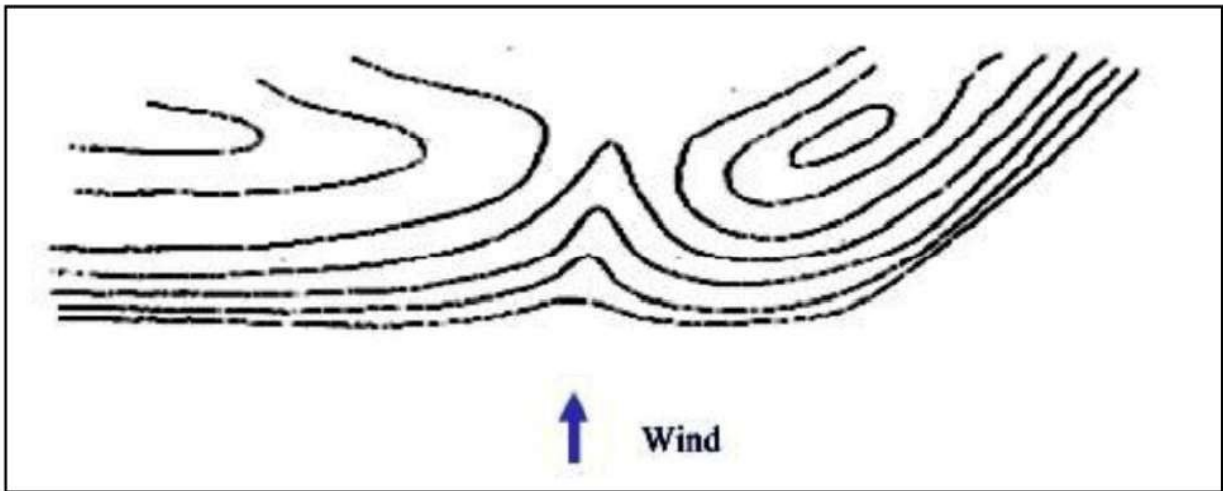
7. Indicate a 30 Kph wind blowing over the profiles in the illustrations below (5)



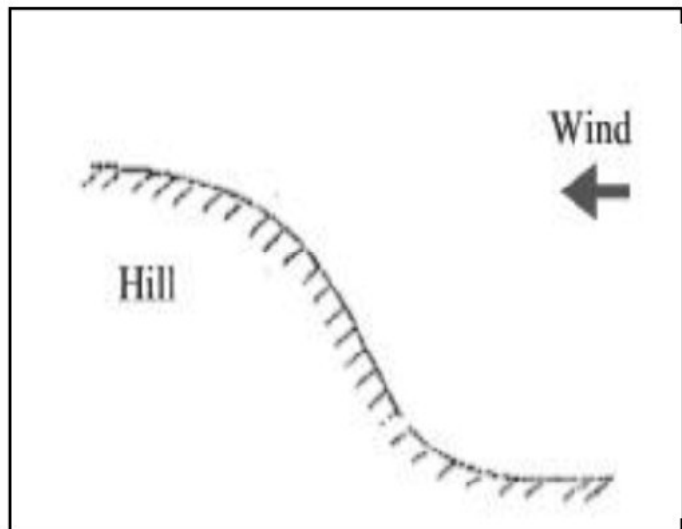
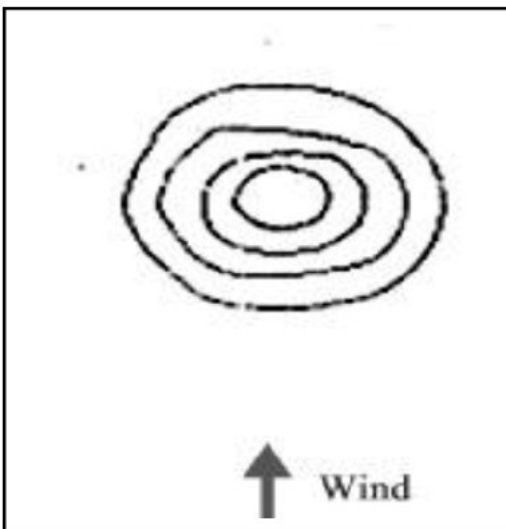
8. Contour Map

- Indicate a 30 kph wind blowing over the contour map and shade the areas of possible penetration difficulties

(3)



b) Indicate a 30 kph wind blowing over the contour map (1)



9. Shade in the lift area on the hill in the above diagram (bottom right) (1)

10. Standing at take-off, how can you judge if the wind is turbulent BEFORE flying? (3)

11. State five visual references which could be used to assess wind SPEED and DIRECTION. (5)

12. Describe (define) and illustrate wind gradient. (3)

13. What do you do if you get too takeoff and the wind is too strong and gusty? (3)

14. What 2 maneuvers have you learnt (4)

15. What is a wind shadow, and where will you expect to find it? (2)

16. Wind Shadow

- a) What would the effect of wind shadow be on a paraglider, (what would it feel like and why) (2)

- b) What should the pilot do when flying into wind shadow? (2)

- c) What should the pilot not do, and why not? (2)

17. What dangers are associated with flying in severe turbulence? (2)

18. What must the pilot do when flying in turbulence? (2)

19. What are the correct actions the pilot must do when

a) Turbulence causes an A-symmetric tuck, and what are the associated dangers?(4)

b) A front collapse occurs while the speed bar is used? (2)

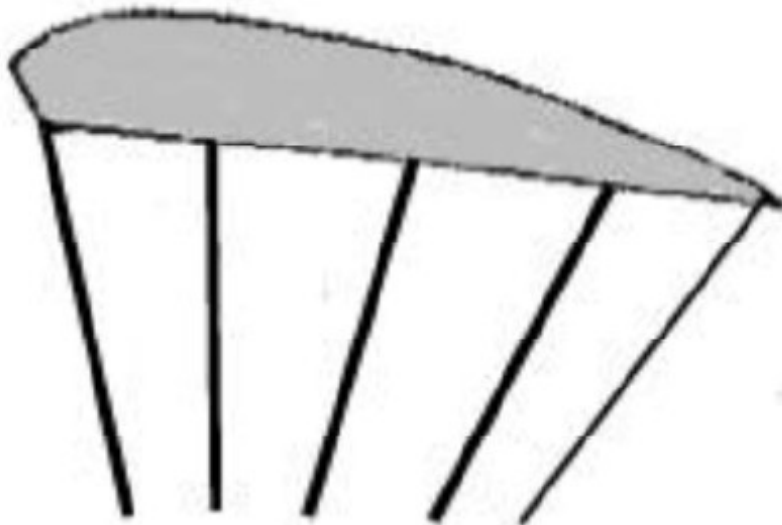
c) A full stall occurs due to deep brake application and/or turbulence.

Explain how the recovery should be made, and what should be avoided? (4)

Section Total = [50]

SECTION C: AERODYNAMICS

20. On the cross section sketch of the paraglider indicate the following: (6)
a) Gravity b) Drag c) Lift d) Relative Airflow e) Chord Line f) Angle of attack



21. What causes a paraglider to move forward in flight? (2)

22. Aerofoil:

- a) the design of a paraglider is an aerofoil, but it is soft and formless on the ground. How is the shape formed, and maintained during flight? (2)

- b) Under what circumstances can the soft wing aerofoil collapse? (2)

23. What happens when the brake (toggle/steering) lines of the paraglider are progressively pulled down during a flight? (3)

24. Front Risers:
- a) What is the result when the front risers are pulled down or the speed bar used, on take-off or during flight? (2)
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- b) What is a possible danger when doing this? (1)
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25. Define
- a) Glide ratio (1)
-
- b) Sink rate (1)
-
- c) Wing loading (1)
-
26. What are the effects of
- a) A light wing loading (below manufacturers specification)? (2)
-
- b) A heavy wing loading (above manufacturers specification)? (2)
-
27. Illustrate:
- a) Yaw (1)
-
- b) Pitch (1)
-
- c) Roll (1)
-
28. What would ground speed be when flying at 20 Kph airspeed in:
- a) A 10 Kph headwind (1)

b) A 20 Kph tailwind (1)

c) A 30 Kph headwind (1)

29. When is a stall utilized to its maximum? (1)

30. Which two features contribute to stability in paragliders? (2)

Section Total = [34]

SECTION D: FLIGHT & CONTROL

31. Safety:

- a) Which four PRINCIPLES to check airworthiness must be followed during the daily equipment inspection? (In each of the four cases, summarise what you would check for, OR why you would do it.) (8)

- b) When should the daily inspection be done? (2)

- c) When should a paraglider be inspected by the manufacturer or distributor? (2)

32. PreFlight:

- a) What are the pre-flight or pre-launch checks (before pulling up for takeoff), and what are you checking for on each one (also known as 5 point check)? (16)

- b) What are the take-off / launch checks DURING a forward pull up? (3)

33. Why is take-off and landing executed into wind? (1)

34. What should a pilot check for when visiting a new landing area before flying? (5)

35. Arriving on site in strong wind conditions, what factors would determine whether you would be able to have a safe flight? (4)

36. Why is it more dangerous to fly a high performance paraglider than an intermediate paraglider? (3)

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37. 80% Brakes:
- a) What is the sequence of events when 80% brakes are suddenly applied and immediately released again to zero position? (4)

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- b) Why can this be dangerous? (2)

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38. In helping another pilot during the actual launch period, what are the duties of a helper? (3)

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39. a) What PLF stand for? (1)

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- b) When is a PLF necessary? (2)

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40. Reserve Parachute:
- a) When should one deploy a reserve parachute? (3)

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- b) What are the steps you should follow when deploying a reserve (how)? (5)

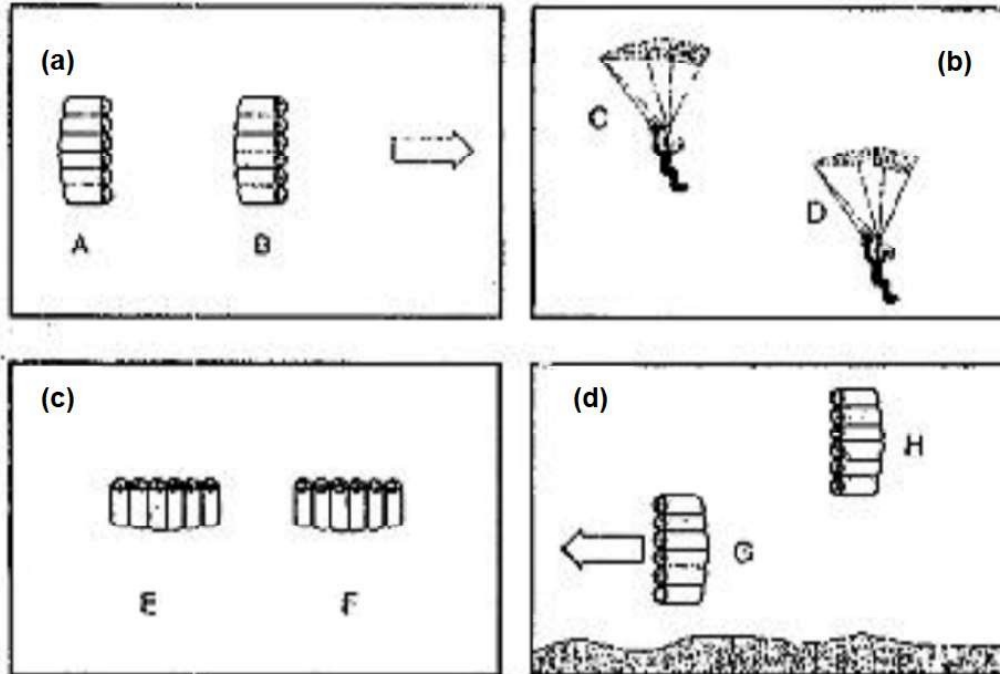
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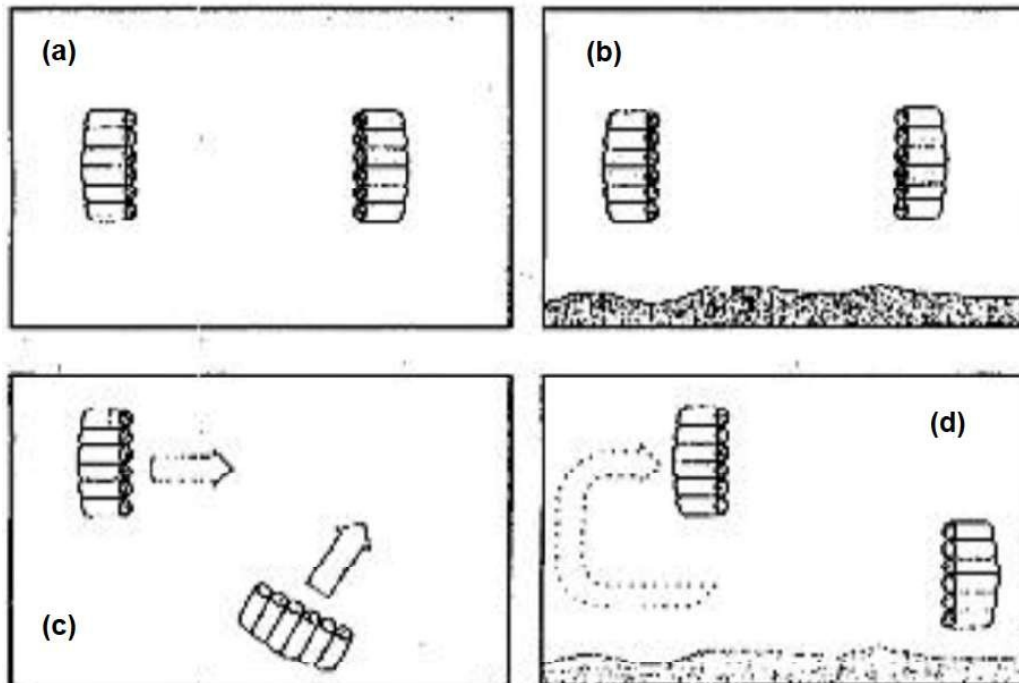
SECTION E: AIRLAW

42. What is the basic rule to determine who has right of way in the air? (1)

43. In each of the sketches on page 42, circle the glider that has right of way. (4)



44. In each in-flight situation in the sketches below use directional arrows to indicate actions to be taken by each of the paragliders in each situation. (4)



Section Total = [9]

SECTION F: COMMON SENSE

45. Irrespective of experience, why is it important to have an observer during take off? (1)

46. What is the danger of attempting a cliff take off? (1)

47. which is the more crucial? (1)

48. cloud types: (4)

a) Cumulonimbus

b) Orographic

49. When flying away on a cross country flight, what are the two most important observations that you will be making during the flight? (2)

50. Why is it a rule that you attain an upright or standing posture in the harness

51. Why would one report to the most senior pilot or site controller on a flying site prior to commencing any flying activity? (2)

52. What are the correct actions to take in the event of an unstable landing

Section Total = [15]

Grand Total = [195]