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### 1. Introduction

- This document covers the RC Student RW Competency test.
- Safety is the highest priority. The objective of all competency related matters is to achieve the highest levels of safety and performance.
- This test performed by a pilot of higher competency level, all paid up RCASA members in good standing.
- The pilot is allowed to land for battery replacement or refuelling.
- The pilot can use the craft of his choice within the applicable class.
- Only 1 flight required, landing for refuelling or battery replacement allowed.
- Any action that is seen as a breach of safety in any way, will result in a complete NYC of this test.
- We see RW crafts as high risk and needs to be treated with utmost respect. All relevant people to maintain a safe distance and well within all relevant safety rulings at the specific venue/club.

### 2. Expected outcome

The pilot must show competency in the following:

a. **Oral questions**

   **100% Competent is expected on the following questions**
   i.   Which Organisation controls RSA airspace? (CAA)
   ii.  What is the maximum weight allowed for a fixed wing craft? (35kg)
   iii. What is the maximum weight allowed for a rotary wing craft? (6.5kg)
   iv.  What is the maximum noise level allowed? (96 dBA at 3m)
   v.   What must you do in case any Full-Size craft approaches the field? (Opposite direction, lower and land)
   vi.  Where can you find the fly and no-fly zones at the RCASA venue? (Club Notice Boards, Safety Officer on duty)
   vii. What is most important when starting up? (Must be in Designated start up area, no people in front or in line with Tail rotor, Check area behind, Check throttle setting)
   viii. What must you do before take-off and landing? (Shout out! "TAKE OFF or LANDING")
   ix.  What must you do in the case of Dead stick or any unwanted response or problems? (Shout out! "DEAD STICK" and step forward)
   x.   What should be done if you Aircraft or Helicopter develops a servo failure during Flight? (If possible, steer craft away from No-fly Zones and declare you have an Issues, Ask instructor for assistance)

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xi.   What is good practice to do before take-off? (Double check controls working in correct direction and check wind direction)

xii.   If flying at a different venue, what must the PIC do before flying? (Check to see if local Safety officer/Instructor is present and ask what the rules of the RCASA venue are)

xiii.   If more than one AC or Heli are flying, is it necessary to know the circuit direction before flying? (Yes)

xiv.   What is the main function of an instructor? (To assist with safety while training a student, to help evaluate and improve Students flying skills)

xv.   During training of a pilot or test flight of an AC or Heli, is it good practice to check the installations of newly built craft before maiden flights. (YES, get as many people to check as possible.)

xvi.   If an Aircraft or helicopter has had a heavy or bad landing. Should you continue to fly? (NO don't fly, Double check craft for and visible damage before flying again.)

xvii.   While flying the wind changes direction, what should you do? (Shout Out! "CIRCUIT CHANGE")

xviii.   What are three important checks to do before test flying a model after it is fully assembled and confirmed installation is correct? (1.C of G, 2. Direction of controls,3. correct amount of travel according to building manual)

xix.   Briefly explain the aerodynamics of your craft and the working of all controlled parts. (Explain rotor and related mechanics and working)

b.  **Pre-flight checks**

**100% Competent is expected on the following questions**

Ask the pilot to perform a complete pre-flight check and look for the following:

i.   Check all is fastened, engine and movable parts, complete

ii.   Check all battery levels, craft, radio, all.

iii.   Ensure it is safe and correct switch on sequence, radio first then craft.

iv.   Perform radio check and check all radio inputs produce the desirable reactions on the craft, ie Tail blade movement direction, Throttle setting before start up, etc.

v.   Start/test the engine or plug in batteries. Observe if pilot ensures a safe/slow start/spool up action.

c. **Flight test**

**70% Competent results is expected on the following manoeuvres**

- The pilot must be always in control during handling, starting, and flying of his craft.
- The pilot must never fly over the people present or "wrong side or close side" of the runway.
  i. Take of vertically to a safe height above eye level. Hover in the position, tail in, for 30 seconds maintaining height and stay within 1m radius.
  ii. Whilst in the same position, rotate 90 degrees left, pause, 180 degrees right, pause, 90 degrees back to the tail in stance.
  iii. Whilst tail in, move to the left, on a virtual parallel line with respect to the pilot line from take-off, about 5 meters from centre.
  iv. Repeat the 90 degrees left, 180 degrees right and 90 degrees back to tail in stance with the pauses as indicated above. End position is tail in, at a similar height as entered.
  v. Move opposite 10m to repeat the above rotations and move back to the centre, tail in.
  vi. Vertical triangle with a 180 deg pirouettes, one on the up line and second on the down line.
  vii. Perform a vertical square with 360 deg pirouettes in up line and down line of square.
  viii. Perform a Nose in Circle.
  ix. Fly out, gain height, and do a 540 deg Stall turn to side of pilot's choice.
  x. Fly straight and level, perform 2 rolls. (Depending on Heli capability)
  xi. Perform a Split S
  xii. Perform one inside loop.
  xiii. Perform a horizontal figure eight at a safe and comfortable distance, as 2 circles intersecting in the centre whilst maintaining height up and down wind.
  xiv. Perform an autorotation with a 90 deg turn (Can be call during the flight test)
  xv. Land safely, test completed.

### 3. Additional Notes

- Do a de-briefing pointing out all positive and negative aspects from the test and results.
- Discuss any findings in a positive manner.
- All tests to be logged on the RCASA portal, C and NYC for good record keeping.