



# The Australian Unmanned Systems Academy Dual Qualification Training Program

## Revision Exercise 2 Equipment

Australian Unmanned  
Systems Academy

### Instructions:

Read the FULL question before attempting to answer the question.

Use reference material if necessary to help you answer the questions.

Ensure you understand EXACTLY what the question is asking. If you are unsure, ask your instructor to clarify the question.

Only short answers are required.

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Question 1 Name the THREE axes that apply to a multirotor aircraft, and the manoeuvring action that is associated with each of those axes.

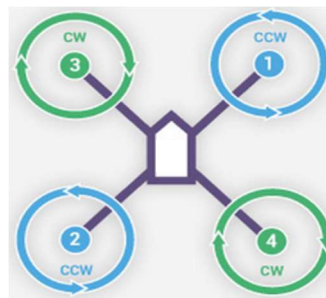
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Question 2 With respect to the diagram below, detail how INCREASING the speed of motors 2 and 4, and simultaneously DECREASING the speed of motors 1 and 3 will cause the multirotor aircraft to travel horizontally.



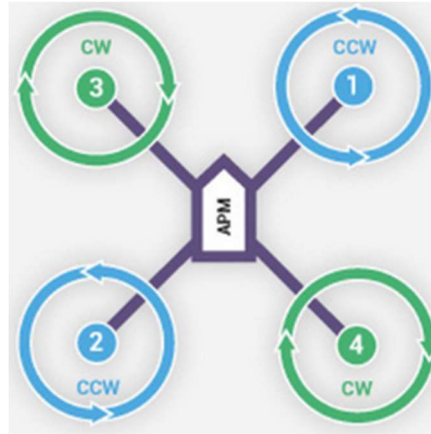
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Question 3 Describe how the multirotor aircraft depicted below can be made to yaw to the right.



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Question 4 How may the direction of rotation of a brushless UAS motor be reversed?

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Question 5 With respect to a wire carrying an electric current, describe the significance of Flemings Right Hand Rule.

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Question 6 The motor for an unmanned aircraft has been described as having a kv of 1340. What does this mean?

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Question 7 Why must sensitive electronic equipment fitted to an unmanned aircraft be physically separated from the motor circuit for that aircraft?

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Question 8 What is meant by the 'PITCH' of a propeller?

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Question 9 A propeller for an unmanned aircraft is described as being a 9 x 4 propeller. What does this mean?

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Question 10 What is meant by the term Pulse Width Modulation.

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**End of Revision Exercise 2**