



**COLLEGE OF AGRICULTURE, FISHERIES & FORESTRY  
SCHOOL OF AGRICULTURAL SCIENCES  
DEPARTMENT OF CROP PRODUCTION  
Certificate IV in Horticulture  
HOR 405 – INTRODUCTION TO HYDROPONIC .**

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**SUMMESTER - 1, 2017 FINAL EXAMINATION**

**DURATION 2 HOURS 10 MINUTES**

**INSTRUCTIONS TO STUDENT**

1. This paper consists for 04 pages.
2. Please check to see that your Exam Paper is complete.
3. Printed or written material is not allowed in the examination hall.
4. Answer all the questions in the answer booklet.
5. Number your answers correctly in the answer booklet.
6. Attach all the extra sheets used as your answer paper in their correct sequence and secure with a string.
7. Use both sides of the answer sheet and write your candidate number on each sheet.

<b>SECTION</b>	<b>PARTICULARS</b>	<b>TOTAL MARKS</b>
<b>A</b>	<b>Part 1: Multiple Choices</b>	<b>5</b>
	<b>Part 2: Matching</b>	<b>5</b>
	<b>Part.3: True or False</b>	<b>5</b>
	<b>Part.4: Fill in the blanks</b>	<b>5</b>
<b>B</b>	<b>Short answers</b>	<b>10</b>
	<b>Total</b>	<b>30</b>



SECTION –A

(20 Marks)

**INSTRUCTIONS**

There are four parts in this section.

All the questions are compulsory.

In your answer booklet write the question number followed by the answer.

**Part 1: Multiple Choices.**

**Pick the correct answer.**

**(5×1=5 Marks)**

1. Growing of plants without the use of soil in carefully balanced nutrient solution is known as
  - A. Hydroponics.
  - B. Green house.
  - C. Aeroponics.
  - D. Aquaponics.
  
2. Elements which are essential to plants and must be present at all times is known as
  - A. Minor nutrients.
  - B. Major elements..
  - C. Trace elements.
  - D. Ions..
  
3. A method where the plant roots grow in sand, gravel, perlite, vermiculite, sawdust, rocks etc and the growing medium is kept moist with the nutrient solution is known as
  - A. Liquid culture..
  - B. Transpiration.
  - C. Aggregate culture.
  - D. Germination.
  
4. How many elements do plants need in order to produce maximum yield and quality.
  - A. 13.
  - B. 14.
  - C. 15.
  - D. 16.
  
5. When plant roots hang in the air but are misted with the nutrient solution to grow normally is known as
  - A. Aeroponics.
  - B. Geoponics.
  - C. Aquaponics.
  - D. Hydroponics.



**Part 2: Match the following words with the statements given on the right. (5×1=5 Marks)**

- |                         |   |
|-------------------------|---|
| 1. Deficient            | A. a process whereby seedlings are transferred from seed trays to a field or garden |
| 2. Ion                  | B. an element required by a plant in very small amount.                             |
| 3. Nutritional disorder | C. an ailment due to either a deficiency or a toxicity of a nutrient                |
| 4. Trace elements       | D. part of a compound generally a salt when in solution.                            |
| 5. Transplant           | E. a plant lacking in a particular nutrient or element.                             |

**Part 3: True or False (5×1=5 Marks)**

1. Weeds are not a problem in hydroponic system.
2. Pests and diseases are not easily detected and controlled.
3. Harvesting mature crops are easy.
4. Growing hydroponically is more work more labour intensive.
5. Hydroponic system is a way of growing crops that can solve the world food hunger and improve food production for the world.

**Part 4: Fill in the blanks with appropriate answer given below. (5×1=5 Marks)**

8.0 to 9.5	neutral	Water
alkaline	6.5 to 7.5	pH

1. The \_\_\_\_\_ is a measure of the electrical potential of the hydrogen atoms in the water and whether they are charged positively or negatively
2. A more \_\_\_\_\_ solution is hard solution and an acid solution is soft solution.
3. A pH of 7 is \_\_\_\_\_.
4. Most plants prefer and grow well with a pH of \_\_\_\_\_.
5. \_\_\_\_\_ will lower pH above 7.5.



**SECTION- B**

**(Short Answers)**

**(5x2=10 Marks)**

**INSTRUCTIONS**

**Answer all the questions.**

**Each question is worth 2 mark.**

1. List atleast 4 vegetables grown hydroponically.
2. List the four components needed to set up the nutrient strength
3. List the 4 causes of trouble shooting in hydroponic system.
4. Discuss hydroponic and aquaponics gardening.
5. List the types of fish raised in aquaponics system.

**THE END**

