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**ICE 509**

**III Semester M.Sc. Examination, December 2017**  
**INDUSTRIAL CHEMISTRY**  
**Agriculture and Health Care Chemicals (OE)**

Time : 3 Hours

Max. Marks : 70

**PART – A**

Answer **any five** questions :

**(5×2=10)**

1. a) Define the term 'macronutrients'. Give any two examples.
- b) Give the classification of fertilizers with suitable examples.
- c) Give the applications of insect pheromones in pest management.
- d) Explain briefly toxicity of insecticides.
- e) What are essential oils ? Give their sources.
- f) Give the method of preparation and uses of phenyl ethanol.
- g) Give the classification of detergents.
- h) How to manufacture grease from fatty acids ?

**PART – B**

Answer **any five** questions :

**(5×12=60)**

2. a) Give the general properties of fertilizers.
  - b) Write a note on the following :
    - i) Classification of essential nutrients
    - ii) Manufacture of phosphoric acid.
3. Give several methods of manufacture of the following :
- a) Ground rock phosphate
  - b) Ammonium phosphate
  - c) Urea.

**(4+8=12)**

**(4+4+4=12)**

P.T.O.

4. Give the synthesis of the following :

a) BHC

b) DDT

c) Endosulfan.

(4+4+4=12)

5. a) What are fungicides ? Explain the use of inorganic and organic fungicides with suitable examples.

b) Write a note on sulfonyl ureas.

c) Describe the mechanism of action and toxicity of herbicides.

(4+4+4=12)

6. Give the methods of preparation and uses of the following :

a) Yara Yara

b) Musk ambrette

c) Phenyl ascetic acid.

(4+4+4=12)

7. a) Describe the methods for the isolation of essential oils.

b) Write a note on perfumeries.

c) What are synthetic musks ? Give examples.

(5+4+3=12)

8. a) Describe the refining of edible oils.

b) Write a note on detergent builders.

c) Explain in detail food adulteration and methods for prevention.

(4+4+4=12)

9. Write note on the following :

a) Analysis pesticides in food products

b) Manufacturing of glycerol

c) Liquid soaps.

(4+4+4=12)

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