

ICE 509

III Semester M.Sc. Examination, December 2018 INDUSTRIAL CHEMISTRY Agriculture and Health Care Chemicals (OE)

Time: 3 Hours

Max. Marks: 70

PART - A

Answer any five questions.

 $(5 \times 2 = 10)$

- a) Write the raw materials and chemical reactions involved in the production of phosphoric acid.
 - b) How the composition of NPK in a mixed fertilizer are reported?
 - c) Write any four natural insecticides.
 - d) Write the effect of endosulphon on biosphere.
 - e) How perfumes are classified?
 - f) Write any four emulsifying agents used in perfume formulations.
 - g) Write the essential qualities of edible oils.
 - h) Why filters are necessary in soaps?

PART – B

Answer any five questions.

 $(5 \times 12 = 60)$

- 2. a) Explain the classification of fertilizers with examples.
 - b) Explain compound and coated fertilizers.
 - c) Explain the comparison between macro and micro elements.

(4+4+4)

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- 3. a) Discuss the production, properties and applications of nitric acid.
 - b) Describe the preparation of triple super phosphate.
 - c) With a neat diagram explain the manufacture of complex fertilizers.
- 4. a) Write the benefits and disadvantages of pesticides.
 - b) Discuss the salient features of integrated pest management.
 - c) Explain the mechanism of action of insecticides.

(4+4+4)

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- 5. a) What are repellents? Discuss their applications in agriculture.
 - b) Write a note on organochlorine insecticides.
 - c) Explain the applications of sulphonyl urea.

(4+5+3)

- 6. a) What do you understand by Hydrophile-Liphophile Balance? Explain its application.
 - b) Explain the function of perfume fixatives.
 - c) Discuss the various types of solvents used for extraction of essential oils.

(4+4+4)

- 7. Explain the method of formulation of the following:
 - 1) Ionone musk ketone
 - 2) Musk xylene
 - 3) Synthetic jasmin.

(4+4+4)

- 8. a) Explain the mechanism of cleansing action of soaps and detergents.
 - b) With the help of neat diagram, explain the commercial method of production of soaps.
 - c) Why different types of detergents are manufactured for cleaning? Explain their advantages. (4+4+4)
- 9. a) Explain the method of determination of moisture in food.
 - b) Enumerate the analytical techniques for essential minerals in food.
 - c) Write a short note on common adulteration in food.

(4+4+4)