

# RAMAKRISHNA MISSION VIDYAMANDIRA

(Residential Autonomous College affiliated to University of Calcutta)

B.A./B.Sc. SIXTH SEMESTER EXAMINATION, JUNE 2022

THIRD YEAR [BATCH 2019-22]

INDUSTRIAL CHEMISTRY (HONOURS)

Paper : DSE4

Date : 20/06/2022

Time : 11 am – 1 pm

Full Marks : 50

Answer **any five** of the following questions:

[5×10]

1. a) what are fine chemicals? Give examples.  
b) Give an Indicative cost structure of a fine chemical company.  
c) Define the following terms
  - i) Drugs
  - ii) Bulk drugs
  - iii) Formulation
  - iv) I.P., B.P , U.S.P.
  - v) Chemotherapeutic index

(2+3+5)
2. a) What are Essential oils? Name the active ingredients of the following essential oils,
  - i) Clove Oil
  - ii) pepper oil
  - iii) Fennel oil  
b) Classify the organic compounds present in essential oils.  
c) What is an isolate?

[(2+3)+4+1]
3. a) Define the terms Perfumes and fragrances .Give examples.  
b) Outline the synthesis of the following compounds.
  - i) Vanilin from Eugenol
  - ii) Benzaldehyde (pure grade) from Toluene
  - iii) Beta Ionone from citral
  - iv) Di phenyl oxide from Benzene

[2+(2×4)]
4. a) Define the term Antibiotic? How does it work on human being?  
b) What is meant by Broad spectrum Antibiotics?  
c) Give the manufacturing process by fermentation technology of
  - i) Ampicilin

**OR**

  - ii) Write their structural formulae of Chloromycetin.

[(1+2)+1(5+1)]
5. a) Briefly describe the process of manufacture with chemical reactions of the Following compounds.

**any two**

[(4+1)×2]

  - i) Sulphanilamide from Acetanilide .State its uses.
  - ii) Chloroquine phosphate starting from Chloroquine. State its uses.
  - iii) Quiniodchlor starting from Phenol. State its uses.
6. a) What is a Paint ? What are different types of paint?  
b) Mention the essential ingredients of a paint and describe are their functions?  
c) What are Additives? State their functions in paint formulation.

[(1+2)+5+2]

7. a) Write Short Notes on  
i) Varnish  
ii) Lacquers  
iii) Distemper (4+4+2)
8. a) What is meant By the term Pigment Volume Concentration (P.V.C.) and define it by Equation.  
b) Give the P.V.C. range for various paints in a tabular form.  
c) What is the importance of P.V.C.?  
d) Write short notes on Emulsion Paints. (2+2+2+4)

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