

RAMAKRISHNA MISSION VIDYAMANDIRA

(Residential Autonomous College affiliated to University of Calcutta)

B.A./B.Sc. SIXTH SEMESTER EXAMINATION, MAY 2017

THIRD YEAR [BATCH 2014-17]

INDUSTRIAL CHEMISTRY (Honours)

Date : 05/05/2017

Time : 11 am – 1 pm

Paper : VII (U-II & III)

Full Marks : 50

UNIT-II

Answer **any six** questions:

[6×5]

- Write a note on petrochemical feed stock.
 - What are the petrochemicals produced starting from propylene. Show the products with the help of flow diagram. 2½+2½
- Discuss the current scenario of the petrochemical industry in India and its future prospect.
 - Why the modern refinery is integrating with petrochemical units. 4+1
- Discuss the manufacturing process of acetylene from natural gas with respect to
 - Reactions involved
 - Flow sheet involved
 - Description of the process 5
- Outline the steps involved in the preparation of the following chemicals starting from ethylene, give the flow sheet of the process. [2·5+2·5]

 - Ethylene oxide
 - Ethanolamines
- What is oxo-synthesis?
 - Discuss in detail the manufacturing process of Butanol via oxo-synthesis. 2+3
- Discuss the reforming process for the production of BTX with respect to
 - Raw materials
 - Reactions involved
 - Process flow diagram
- Discuss the manufacturing process in detail (**any one**) :

 - Styrene
 - Methanol
- Discuss the separation methodology of:
o-xylene, p-xylene and m-xylene from their mixture. 5
- Describe the manufacturing process of Alkyl Benzene sulfonate from kerosene. States its use. 4+1

UNIT-III

Answer **any four** questions:

[4×5]

10. a) What is fine chemicals?
b) What are the differences between the heavy chemicals and fine chemicals?
c) Give examples of fine chemicals.
d) Explain the term (i) I.P. (ii) B.P. and (iii) U.S.P.
e) Give the definitions of the following terms:
i) Drugs
ii) Bulk drug
iii) Formulation 1+1+1+1+1
11. a) What do you mean by the term Broad-spectrum antibiotics? How it works?
b) Describe the manufacturing process of penicillin. 2+3
12. Outline the synthesis of the following compound (**any two**): [2×2.5]
i) Chloroquin phosphate from chloroxy quinolone
ii) Sulphathiazole
iii) Paludrine
iv) Sulphanilamide from Acetanilide
13. a) Explain the terms: Antipyretic and Analgesis with examples.
b) Write the trade names of the following basic drugs widely used in the market.
i) Paracetamol
ii) Sulpha drug
c) Draw the flow diagram for paracetamol manufacturing process from parachloro nitrobenzene. 2+1+2
14. a) What are Essential oils? Give examples of essential oils.
b) Describe the method of extraction of essential oil.
c) What is an isolate? 2+2+1
15. Outline the synthesis of the following compound (**any two**): 2×2.5
i) vanillin from phenol
ii) phenyl ethyl alcohol (Rose alcohol)
iii) β-Eonone from Citral.

————— × —————