



JA-003-1016026

Seat No. _____

B. Sc. (Sem. VI) (CBCS) Examination

August - 2019

IC-601 : Dyes & Intermediates

Faculty Code : 003

Subject Code : 1016026

Time : $2\frac{1}{2}$ Hours]

[Total Marks : 70

Instructions :

- 1) Question paper carries total 5 questions.
- 2) All the questions are compulsory & carry 14 marks each.
- 3) Draw labeled diagram wherever necessary.
- 4) Assume suitable data.

- 1 A. Answer the following questions : 4
1. Direct dyes get strongly adsorbed on cellulose. True/False?
 2. According to Watson's theory, the depth of the colour depends on the length of _____ chain.
 3. Logwood is an example of _____ dye.
 4. Basic dyes having _____ group which is protonated under acid conditions.
- B. Answer in brief : (Any **one** out of **two**) 2
1. Discuss pigment with example.
 2. Explain white dye with example.
- C. Answer in detail : (Any **one** out of **two**) 3
1. Write a short note on reactive dye.
 2. Explain vat dye.
- D. Write a note on : (Any **one** out of **two**) 5
1. Explain Molecular orbital theory in detail.
 2. Write a detailed note on Chromophore-Auxochrome theory.

- 2 A. Answer the following questions : 4
1. R-acid is also known as _____.
 2. Which catalyst is used for synthesis of chlorobenzene from benzene?
 3. Give full form of GLC.
 4. Stationary phase used in chromatography should be inert in nature. True/False?
- B. Answer in brief : (Any **one** out of **two**) 2
1. Explain adsorption chromatography with example.
 2. Give synthesis of J-acid.
- C. Answer in detail : (Any **one** out of **two**) 3
1. Write applications of TLC.
 2. Give synthesis of p-nitro aniline from aniline.
- D. Write a note on : (Any **one** out of **two**) 5
1. Explain Lung nitro meter with neat diagram.
 2. Discuss preparation of H-acid with diagram.
- 3 A. Answer the following questions : 4
1. Azo dyes are mainly prepared by diazotization of 1°amine to give _____ salt.
 2. Which starting material is used to synthesize Metanil yellow.
 3. Direct Red 6S is an example of mono azo dye. True/False?
 4. Give structure of R-acid.
- B. Answer in brief : (Any **one** out of **two**) 2
1. Give synthesis of Butter yellow.
 2. Give synthesis of Chrysodine G.
- C. Answer in detail : (Any **one** out of **two**) 3
1. Give synthesis of Chrome blue black R.
 2. Write synthesis of Brilliant yellow.
- D. Write a note on : (Any **one** out of **two**) 5
1. Discuss various diazotization methods in detail.
 2. Explain preparation of Direct Black EW with diagram.

- 4 A. Answer the following questions : 4
1. Write two properties of disperse dye.
 2. Activated sludge process is an example of _____ treatment.
 3. Give any two examples of air pollutants.
 4. Optical whitener should not be absorbed in visible part of spectra. True/False?
- B. Answer in brief : (Any **one** out of **two**) 2
1. Write a note on dispersing agents.
 2. Explain use of clarifier as effluent treatment plant equipment.
- C. Answer in detail : (Any **one** out of **two**) 3
1. Give synthesis of Disperse Red 4.
 2. Discuss important data for plant scale up.
- D. Write a note on : (Any **one** out of **two**) 5
1. Discuss various limitations of poor plant layout in detail.
 2. Give an account of optical whitener and fluorescent brightner.
- 5 A. Answer the following questions : 4
1. Anthraquinone derivatives contain hydroxyl or amino group. True/False?
 2. Who defined reactive dye?
 3. Anthraquinone, the basic system having fainty _____ colour.
 4. Indigotin is also known as _____.
- B. Answer in brief : (Any **one** out of **two**) 2
1. Give synthesis of Flavanthrone.
 2. Give synthesis of Indigotin-I.
- C. Answer in detail : (Any **one** out of **two**) 3
1. Give synthesis of Indanthrene Brown RRD.
 2. Give synthesis of Indigosol O.
- D. Write a note on : (Any **one** out of **two**) 5
1. Explain manufacturing process of Indanthrene Rubene-R.
 2. Give synthesis of Indanthrone Yellow 4GK from two different routes.