



DP-003-2016026

Seat No. _____

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

March - 2022

BS-IC-601 : Dyes & Intermediates

Faculty Code : 003

Subject Code : 2016026

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

[Total Marks : 70

- Instructions :**
- (1) Question paper carries total five 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) Indigo is an example of _____ dye. Natural/ Synthetic?
 - (2) Martius developed first azo dye called _____.
 - (3) Define the term 'Dyeing'.
 - (4) _____ theory is also known as resonance theory.
- (B) Answer in brief : (Any **one** out of two) 2
- (1) Discuss reactive dye in brief.
 - (2) Explain Bayer's theory in brief.
- (C) Answer in detail : (Any **one** out of two) 3
- (1) Explain why Acetone is colorless while biacetyl is yellow.
 - (2) Write a short note on basic dye.

- (D) Write a note on : (Any **one** out of two) 5
- (1) Explain Witt's theory in detail.
 - (2) Discuss : (i) Ethylene is colorless while β carotene is orange red in colour.
(ii) p-nitro phenol is colorless but yellow in alkaline solution.
- 2 (A) Answer the following questions : 4
- (1) Which raw material is used for synthesis of o-nitro chloro benzene?
 - (2) Nitration of benzene in presence of mixed acid gives nitrobenzene. True/False?
 - (3) Give full form of TLC.
 - (4) TLC is one type of chromatography. True/False?
- (B) Answer in brief : (Any **one** out of two) 2
- (1) Write a brief note on R_f value.
 - (2) Write a reaction of Chicago acid.
- (C) Answer in detail : (Any **one** out of two) 3
- (1) Discuss manufacturing of schaeffer's acid in brief.
 - (2) Write applications of paper chromatography.
- (D) Write a note on : (Any **one** out of two) 5
- (1) Write a detailed note on Lung nitro meter with diagram.
 - (2) Explain manufacturing of H-acid with neat & clean diagram in detail.
- 3 (A) Answer the following questions : 4
- (1) Give one example of mono azo acid dye.
 - (2) _____ chromophoric group is present in azo dye.
 - (3) Draw structure of Butter yellow.
 - (4) Congo red dye is an example of _____ dye.

- (B) Answer in brief : (Any **one** out of two) **2**
- (1) Give a synthesis of metanil yellow.
 - (2) Give synthesis of Congo red.
- (C) Answer in detail : (Any **one** out of two) **3**
- (1) Explain manufacturing of Naphthol Blue Black in brief.
 - (2) Give synthesis of Rosanthrene-O dye.
- (D) Write a note on : (Any **one** out of two) **5**
- (1) Discuss synthesis of Direct Black EW.
 - (2) Discuss Bisazo dye with its various types in detail.
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- 4 (A) Answer the following questions : **4**
- (1) Give any two functions of dispersing agents.
 - (2) Scrubber is used for controlling _____ pollution.
 - (3) Give any two examples of air pollutants.
 - (4) Disperse dye contains mono or other azo groups. True/False?
- (B) Answer in brief : (Any **one** out of two) **2**
- (1) Enlist various methods for controlling gaseous emission,
 - (2) Write a short note on pilot plant.
- (C) Answer in detail : (Any **one** out of two) **3**
- (1) Give synthesis of Disperse Red 4.
 - (2) Discuss air pollution in brief
- (D) Write a note on : (Any **one** out of two) **5**
- (1) Discuss various limitations of poor plant layout in detail
 - (2) Discuss Quality Control & Factory layout for industries in detail.

- 5 (A) Answer the following questions : 4
- (1) Give two advantages of anthraquinone vat dye.
 - (2) Rys and Zollinger had defined reactive dye. True/False?
 - (3) Reactive red can be prepared from _____ acid.
 - (4) The stability of reactive dye is due to _____ bond.
- (B) Answer in brief : (Any **one** out of two) 2
- (1) Write a short note on Vat dye.
 - (2) What is thioindigo dye? Give one example.
- (C) Answer in detail : (Any **one** out of two) 3
- (1) Discuss various dyeing process in brief.
 - (2) Give synthesis of Procion Red dye.
- (D) Write a note on : (Any **one** out of two) 5
- (1) Explain manufacturing process of Indanthrene Rubene-R.
 - (2) Discuss advantages of reactive dye over VAT dye, Azoic dye & Pigment.
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