



**DP-003-1016026**

Seat No. \_\_\_\_\_

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

**March - 2022**

**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) A dye is used to impart the color on \_\_\_\_\_.  
(Cloth/Allow)?
  - (2) Which is the first natural dye?
  - (3) Give a name of the first anthraquinonoid vat dye.
  - (4) Define: Dyeing
- (B) Answer any **one** out of two : 2
- (1) Write a short note on Mordant dye.
  - (2) Give a reason; Why acetone is colorless while biacetyl is yellow in color
- (C) Answer any **one** out of two : 3
- (1) Give a reason: Benzene, Naphthalene & Anthracene are colorless, Naphthacene is yellow, Pentacene is blue & Graphite is black in color.
  - (2) Explain in brief: (1) Acid dye (2) Basic dye

- (D) Answer any **one** out of two : 5
- (1) Discuss Witt's Theory in detail.
  - (2) Explain in detail: Synthetic dyes
- 2** (A) Answer the following questions. 4
- (1) \_\_\_\_\_ is also known as mixed acid.
  - (2) O-Nitro anisole is obtained from O-Nitro chlorobenzene in presence of NaOCH<sub>3</sub>. True/False?
  - (3) Define: Chromatography
  - (4) Give a full form of HPLC.
- (B) Answer any **one** out of two : 2
- (1) Write a reaction of Chicago acid.
  - (2) Write a brief note on R<sub>f</sub> value.
- (C) Answer any **one** out of two : 3
- (1) Discuss chlorination of benzene with neat & clean diagram in brief.
  - (2) Give classification of chromatography.
- (D) Answer any **one** out of two : 5
- (1) Explain manufacturing of H-acid with neat & clean diagram in detail.
  - (2) Write a detailed note on various experimental techniques of TLC in detail.
- 3** (A) Answer any **one** out of two : 4
- (1) What is Azo dye?
  - (2) Enlist types of diazotization.
  - (3) Congo red dye is an example of direct dye. True/ False?
  - (4) Draw the structure of chrysodine-G dye.

- (B) Answer any **one** out of two : 2
- (1) What is diazotization? Give example
  - (2) Write only synthesis for metanil yellow dye.
- (C) Answer any **one** out of two : 3
- (1) Discuss classification for sub-class of azodye.
  - (2) Give a synthesis for Tartrazine dye.
- (D) Answer any **one** out of two : 5
- (1) Explain in detail: Manufacturing of Brilliant Yellow dye with neat & clean diagram
  - (2) Discuss Monoazo dye with example in detail.
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- 4 (A) Answer the following questions : 4
- (1) Disperse dye are used for dyeing of Polyester. True/False?
  - (2) \_\_\_\_\_ pollution is not caused by dyes industries. (Radiation pollution/ Soil pollution)?
  - (3) Give a full form of D.C.S,
  - (4) Sedimentation is also known as \_\_\_\_\_.
- (B) Answer any **one** out of two : 2
- (1) Enlist any four properties of Disperse dye.
  - (2) Write a short note on pilot plant.
- (C) Answer any **one** out of two : 3
- (1) Discuss Air pollution in brief.
  - (2) Explain in brief: Optical Whiteners & Fluorescent brighteners
- (D) Answer any **one** out of two : 5
- (1) Discuss various limitations of poor plant layout in detail.
  - (2) Explain in detail: Manufacturing of Disperse Red-4 dye with neat & clean diagram.

- 5 (A) Answer the following questions : 4
- (1) Give IUPAC name of cyanuric chloride.
  - (2) Write a full form of I.C.I.
  - (3) \_\_\_\_\_ & \_\_\_\_\_ scientists are defined reactive dye.
  - (4) Indigo dye dyes is also known as \_\_\_\_\_.
- (B) Answer any **one** out of two : 2
- (1) Enlist any four limitations of Reactive dye.
  - (2) Give a difference between Reactive dye & direct dye in brief.
- (C) Answer any **one** out of two : 3
- (1) Explain in brief: Synthesis of Caledone jade green dye
  - (2) Discuss manufacturing of Indigotin dye by Sand Mayer's process in brief.
- (D) Answer any **one** out of two : 5
- (1) Discuss manufacturing of Reactive Red dye in detail.
  - (2) Discuss manufacturing of Indanthrene Brown RRD with neat & clean diagram.
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