

**RAN-2003080204040032**

M. Sc. (Sem. - IV) Examination September - 2025
Organic Chemistry (Paper - IV) Dyes and Intermediate II

Time: 3 Hours]**[Total Marks: 70**

સૂચના : / Instructions (1) ઉપરોક્ત દર્શાવેલ વિગતો ઉત્તરવહી પર અવશ્ય લખવી. Fill up strictly the above details on your answer book	Seat No.: <table style="width: 100%; text-align: center;"> <tr> <td style="border: 1px solid black; width: 25px; height: 25px;"></td> <td style="border: 1px solid black; width: 25px; height: 25px;"></td> <td style="border: 1px solid black; width: 25px; height: 25px;"></td> <td style="border: 1px solid black; width: 25px; height: 25px;"></td> <td style="border: 1px solid black; width: 25px; height: 25px;"></td> <td style="border: 1px solid black; width: 25px; height: 25px;"></td> </tr> </table> Student's Signature						

Q. 1. Answer any three of the following. (18)

- a. How Anthraquinone Mordant dyes interact with mordant to fix on to fibers?
Give an account of Anthraquinone Mordant dyes.
- b. Discuss the mechanism of dyeing using Anthraquinone solubilized vat dyes.
Discuss chemistry and synthesis of Anthraquinone based solubilized vat dyes.
- c. What are Anthraquinone acid dyes? Give a brief account of hydroxyanthraquinone acid dyes and anthron & other heterocyclic derivatives of anthraquinone acid dyes.
- d. Give synthesis of:
 - i. Anthracene Blue SWX ii. Caledon Jade Green XBN
 - iii. Indanthrene Orange 7 RK

Q. 2. Answer any three of the following (18)

- a. Describe Reactive dyes.
- b. Define TPM dyes. Give an account of amino derivatives of TPM dyes.
- c. Give an account of Acid dyes.
- d. Give synthesis of:
 - i. Malachite Green ii. Acid Red 1
 - iii. Procion Brilliant Blue MR

Q. 3. Answer any three of the following (18)

- a. Classify Disperse dyes. Discuss the chemistry and synthesis of Disperse dyes belonging to any two groups..
- b. Describe Cationic dyes.
- c. What are Thioindigo dyes? Give an account of Thioindigo dyes.
- d. Give synthesis of:
 - i. Disperse Yellow 16 ii. Indanthrene Brilliant Pink R
 - iii. Disperse Orange 29

Q. 4. Answer any three of the following (16)

- a. Give an account of Sulphur dyes.
- b. What are Xanthene dyes? Describe Xanthene dyes.
- c. What are dye Lasers? Write note on Dye Lasers.
- d. Give an account of Indamine and Indophenol dyes.