

**RAN-1903080203040032****M.Sc. (Chemistry) (Sem. - III) Examination October - 2025****Dyes and Intermediate - I (Paper - IV)****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.:

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Student's Signature

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

- Discuss the laws of coupling and coupling agents.
- What are azo dyes ? Explain Lapworth's classification system of bis azo dyes and illustrate it with suitable examples.
- Write the structure of the following coupling component and assign the position at which the coupling reaction take place.
 - m.P.D.A
 - Crocein acid
 - Bronneracid
 - J-acid
 - Aceto acetanilide
 - Cleve's acid
- Give the synthesis of:
 - Mordant Black - 3
 - Disperse Red -13
 - Fast Orange GGD

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

- What do you mean by fluorescent whitening agents ? Give their classification and explain the synthesis of one FWA from two different classes.
- What are the various types of fastness properties in dyes. Discuss.
- Explain the dyeing process of Vat dyes and Mordant dyes .
- Give a general classification of different types of textile fibres.

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

- Discuss the classification of dyes based on chemical constitution.
- Discuss the different functional dyes for high tech applications of liquid crystal display.
- Give a brief account of dyes for non textile uses. Give the structure and uses of ink dyes and leather printing dyes.
- Give the synthesis of:
 - Acridine Yellow G
 - EBT
 - Safranin B

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

- (a) Discuss the chemistry of oxazine and thiazine dyes.
 - (b) Explain with structure, synthesis and applications of different cyanine dyes.
 - (c) Give a descriptive account of organic pigments with examples.
 - (d) Give the synthesis of :
 - (i) Sirisus Supra Yellow RT
 - (ii) Acid Yellow 19
 - (iii) Safranin B
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