

[This question paper contains 2 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 7026

K

Unique Paper Code : 2172554701

Name of the Paper : DYES : PREPARATION AND PROPERTIES

Name of the Course : **B.Sc. Prog.**

Semester : VII

Duration : 2 Hours

Maximum Marks : 60

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Attempt any **four** questions. Question number 1 is compulsory.

1. (a) What are the pre-requisites of a dye?
(b) Differentiate between bathochromic and hypsochromic shift.
(c) Explain the colour and constitution with reference to chromophore-auxochrome theory.
(d) Describe the historical development of dyes from natural to synthetic dye.
(e) Mention two harmful effects of dye effluent on human health. (3,3,3,3,3)
2. (a) How can we classify the dyes based on their chemical constitution? Explain by giving examples.
(b) What are the limitations of natural dyes?
(c) What are factors that affects the fastness properties of dyes? (7,4,4)

P.T.O.

3. Give the preparation of any three of the following dyes with mechanism :

- (i) Malachite green
- (ii) Phenolphthalein
- (iii) Methyl orange
- (iv) Crystal violet (5,5,5,5)

4. (a) Discuss the batch and continuous process of dyeing.

(b) Discuss the dyeing of wool using triphenylmethane dyes.

(c) Indicate the fibres for which the following dyes have affinities.

- (i) Mordant dye
- (ii) Acid dyes
- (iii) Direct dyes (8,4,3)

5. (a) Discuss the effect of dye effluent on Environment.

(b) Explain the treatment of dye effluent by chemical method, c) What is the waterless dyeing and why it is required. (5,5,5)

6. Write short notes on any **three** of the following :

- (i) Eco-friendly dyes
- (ii) Disperse dyes
- (iii) Vat dyes
- (iv) Case-study of Kalamkari (5,5,5)