

1500

(d) Natural and Synthetic Polymer

(e) Addition and condensation polymerisation
3×5=15

[This question paper contains 4 printed pages]

Your Roll No. :

Sl. No. of Q. Paper : **1500** **I**

Unique Paper Code : 2173522011

Name of the Paper : DSE : Chemistry of
Polymers, Dyes and
Natural Products

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

Semester : V

Time : 2 Hours **Maximum Marks : 60**

Instructions for Candidates :

- (a) Write your Roll No. on the top immediately on the receipt of this question paper.
- (b) Attempt any **four** questions in **all**. Question **NO. 1** is compulsory.
1. Explain any five :
 - (a) Give the classification of polymer on the basis of configuration at stereo - centres.
 - (b) What are chromophore and auxochrome ? Gives example.
 - (c) Discuss the classification of alkaloids.

- (d) Write Citral A is an α, β -unsaturated aldehyde. Justify ?
- (e) Write polymerisation reaction involved in Polyvinyl chloride and discuss its uses.
- (f) How does Congo Red impart red colour in the alkaline medium ? $3 \times 5 = 15$
2. (a) What is Vulcanisation ? How does it improve the properties of Natural Rubber ?
- (b) Give the synthesis and industrial application of Citral.
- (c) Give the synthesis and uses of Indigotin dye. $5 \times 3 = 15$
3. (a) Write the structure and synthesis of Alizarin. How alizarin imparts colour to the fabric.
- (b) Explain synthetic derivatives of Cellulose with structure.
- (c) Give the importance and properties of Alkaloids. $5 \times 3 = 15$
4. (a) What is Zeigler - Natta catalyst ? Explain the mechanism.

- (b) Give the synthesis of Methyl Orange ? Why is it red at pH below 3.1 and yellow above 4.4 ? Explain with structures.
- (c) Discuss the advantage of Emde's modification over Hoffmann's Exhaustive Methylation using a suitable example. $5 \times 3 = 15$
5. Write short notes (any five) :
- (a) Phenolphthalein
- (b) Edible Dye
- (c) Glass Transition Temperature
- (d) Biodegradable Polymers
- (e) Structure Elucidation of Citral
- (f) Buna Rubber $3 \times 5 = 15$
6. Differentiate between : (Attempt all five) :
- (a) Thermosetting plastics and Thermoplastic
- (b) Mordant Dye and Vat Dye
- (c) Cationic and Anionic Polymer