

[This question paper contains 3 printed pages.]

Sr. No. of Question Paper : 6957 D Your Roll No.....

Unique Paper Code : 217563

Name of the Course : **B.Sc. (Applied Physical Science) Industrial Chemistry**

Name of the Paper : ICPT-505 – Industrial Chemistry Dyes & Polymers – V

Semester : V

Duration : 3 Hours

Maximum Marks : 75

**Instructions for Candidates**

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Attempt Six questions in all.
3. Question No. 1 is compulsory.

1. Answer any five of the following :

(a) What are Polysulphones ?

(b) Write the structural formula of the following polymers :

(i) Buna-N rubber

(ii) Rayon

(iii) Dacron

(c) Describe the preparation and uses of Polycarbonats.

(d) Write note on Silicon resin.

(e) Explain how linear and cross-linked silicons are prepared.

(f) What are vat dyes ? (3×5)

2. (a) Write Haumann synthesis of Indigo. Give uses.

P.T.O.

- (b) Give the preparation and uses of bismark brown. Which group is responsible for its colour ?
- (c) Give the industrial preparation and uses of Methyl orange. (4,4,4)
3. (a) Differentiate between addition and condensation polymerization. Classify following an addition and condensation polymer. Polyacrylonitrile, Nylon, Polystyrene, polyamide.
- (b) What are biopolymers ? Give examples.
- (c) What are flame retardants ? (5,5,2)
4. Write short notes on **(any four)** :
- (a) Plexiglass
- (b) Plasticizer
- (c) Anti-wrinkle properties of fibres.
- (d) Azo dyes
- (e) Fabric brightners
- (f) Borophosphate glass (3×4)
5. (a) Name two polyesters used as textile material.
- (b) Write note on Polymer processing.
- (c) What are Alkyds ? Write its structure, property and application ? (2,5,5)
6. (a) Give the classification of polymers based upon molecular forces.
- (b) Give the industrial preparation of Nylon 6,6.
- (c) Differentiate between Natural and synthetic polymers. (4,5,3)

7. (a) Write the preparation and properties of Polyphosphazines.
- (b) Give the synthesis of Malachite Green.
- (c) Define Elasticity. How natural rubber is isolated and processed ? Write its uses. (4,4,4)