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4

- (c) Differentiate between accurate and precise results with examples. (5+5+5)

7. Write the short not on any three

(a) Stress-strain curve

(b) Refractive index

(c) ESCRA.

(d) Statistical method of analysis. (5+5+5)

(100)

[This question paper contains 4 printed pages.]

Your Roll No.....

Sr. No. of Question Paper : 5538

J

Unique Paper Code : 6092012401

Name of the Paper : Polymer Testing and specifications

Name of the Course : **B. Sc. (H) Polymer Science**

Semester : IV

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 **four** questions in all
3. **Question No. 1** is compulsory.
4. Draw neat and labeled diagram wherever necessary.
5. Log table and simple calculator is allowed.

P.T.O.

1. (a) Describe the process of calibration and its importance in plastic testing.
(b) Explain the process and use of "Shore D" in plastic testing.
(c) Explain the method for measurement of surface electrical resistance in brief.
(d) Write a note on water ageing of plastic with its examples.
(e) Write the full name of abbreviations and their respective countries: BIS, ASTM, and DIN?
(5 x 3 = 15).
2. (a) Write a note on "Specular Gloss" of plastic.
(b) Explain the significance of melt viscosity.
(c) Discuss significance of "Tensile creep" of the plastic materials. (5+5+5)
3. (a) Explain the "standard protocol" in the working condition of "universal testing machine" (UTM) along with its application in polymer testing.

- (b) What is abrasion resistance?-Also explain the factors effecting the abrasion resistance of a plastic. (10+5)
4. (a) What is burn rating? Describe vertical burning test in UL-94 method for burn rating.
(b) Describe the test procedure for three point flexural strength of materials with standar
(c) Describe the importance and measuring procedure of melt flow index. (5+5+5)
5. (a) Explain the ASTM specifications for heat deformation temperature and cup flow test.
(b) Explain the effect of crystallinity on the water permeability of polymer film with suitable examples.
(c) Explain the importance of "Oxygen transmission rate". (5+5+5)
6. (a) Discuss the measuring procedure and significance of heat conductivity with examples.
(b) Discuss test procedure for break down voltage of plastics.