

M.Sc Semester-4 Examination

507

Polymer Science

April-2024

Time : 2-30 Hours]

[Max. Marks : 70

પ્રશ્નપત્ર માત્ર ૩ (૬ લ ગણ = ૭૦ માર્ક્સ)

QUESTION – 1 Write the following

- (i) Explain DSC and TGA analysis, what is the Difference between DSC and TGA? 7 MARKS
- (ii) Write down the types of Hardness. Explain Rockwell hardness? 7 MARKS

OR

- (i) Write down behavior of filled and reinforced Polymers? 7 MARKS
- (ii) Explain the Shear and tear strength of plastic material, what is the Difference between shear and tear strength? 7 MARKS

QUESTION – 2 Write the following

- (i) What is Izod and Charpy impact test and what is difference between Izod and Charpy Impact test? 7 MARKS
- (ii) Explain all types of optical properties? 7 MARKS

OR

- (i) Write down classification of mechanical properties and explain tensile, flexural and compressive properties of materials? 7 MARKS

7 MARKS

- (ii) What is HDT AND VST explain? Give the difference between HDT and VST. 7 MARKS

QUESTION – 3 Write the following

- (i) What is standard and specification Explain it and What is requirement of testing? 7 MARKS
- (ii) Define types of electrical properties What is advantage and disadvantage of electrical properties. 7 MARKS

OR

(i) Explain Product testing as per IS 4985:2021?

7 MARKS

(ii) Short notes ESCR, Water absorption, MFI and brittleness temperature?

7 MARKS

QUESTION – 4 Write the following

(i) Explain Product testing as per IS 12701?

7 MARKS

(ii) Short notes permeability, aging, chemical resistance, Dissipation factor?

7 MARKS

OR

(i) Explain Creep and stress relaxation? What is difference between both?

7 MARKS

(ii) Explain Product testing as per IS 4984:2016?

7 MARKS

QUESTION – 5* Attempt all seven questions

14 MARKS

* MCQ /Short question (One or Two-line answer)

(i) Which ASTM D use for conditioning?

(ii) What is the significance of testing.

(iii) Why we are using standard for product testing?

(iv) Define haze, gloss and clarity?

(v) What is ASTM D No. Foam, Gloves, Cable and container testing?

(vi) Write down the test name of rheological properties?

(vii) What is the Abbreviation of ODR, MPT, ESCR?

(viii) Write down the names of specimen preparation techniques?

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