

22387

23242

3 Hours / 70 Marks

Seat No.

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- Instructions :**
- (1) All Questions are *compulsory*.
 - (2) Answer each next main Question on a new page.
 - (3) Illustrate your answers with neat sketches wherever necessary.
 - (4) Figures to the right indicate full marks.
 - (5) Assume suitable data, if necessary.
 - (6) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1. Solve any FIVE :

10

- (a) List any two non destructive and any two destructive type tests.
- (b) Define compressive strength.
- (c) Name any two equipments to measure abrasion resistance of plastic specimen.
- (d) Define vicat softening point.
- (e) Define Rheology.
- (f) Name any four electrical properties of plastic.
- (g) State the significance of measuring weathering properties of plastic.

2. Solve any FOUR :

12

- (a) Describe specification and standards for testing of plastic.
- (b) Describe test procedure to find the tensile strength of plastic specimen.
- (c) Explain test procedure to find heat deflection temperature of plastic specimen.
- (d) Describe test procedure to find dissipation factor of plastic specimen.
- (e) Explain test procedure to find strain resistance of plastic.



- 3. Solve any FOUR :** **12**
- (a) Name any three standard producing organizations and state its important role.
 - (b) Explain test procedure to find izod impact strength of plastic sample.
 - (c) Explain oxygen index test with neat diagram.
 - (d) Explain test procedure to find surface resistivity of any plastic sample.
 - (e) Explain UV lamp test to find weathering characteristics of plastic.
- 4. Solve any THREE :** **12**
- (a) Describe Rockwell hardness test with its significance.
 - (b) Describe the test method to find Dart impact resistance of plastic film.
 - (c) Explain test method to find viscosity of plastic resin with Brookfield viscometer.
 - (d) State the formula to find brittleness temperature of plastic specimen. State its significance.
 - (e) Explain test procedure to find refractive index of plastic.
- 5. Solve any THREE :** **12**
- (a) Draw and explain typical stress strain curve for plastic material.
 - (b) Describe test method to find T_g with differential scanning calorimeter.
 - (c) Explain test method to find coefficient of linear thermal expansion.
 - (d) Explain the construction of parallel beam glossmeter with neat diagram.
 - (e) Explain solvent stress crack resistance test with neat diagram.
- 6. Solve any TWO :** **12**
- (a) Explain Creep properties by drawing generalized creep curve.
 - (b) State any three factor affecting the test result of melt flow index values of plastic. Describe how to interpret the MFI of plastic.
 - (c) Describe test method to find dielectric strength of plastic specimen with its factor affecting the test results.
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