

17548

21819

3 Hours / 100 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. Attempt any FIVE of the following:** **20**
- a) Explain the importance of specification in testing.
 - b) Explain with neat figure the measurement of bulk density of plastic materials.
 - c) Explain test apparatus and procedure of vicat softening point measurement.
 - d) Describe with neat figure the measurement of arc resistance.
 - e) Explain μp test for thermosets with neat figure
 - f) Explain oxygen index test for plastic material
 - g) Draw neat figure for measurement of MFI of plastic material. Describe its procedure.

P.T.O.

- 2. Attempt any TWO of the following:** **16**
- a) Explain drop impact test with factor affecting the test results . Enlist its any four limitations.
 - b) Define haze. Explain haze measurement test with neat figure.
 - c) Explain with neat figure the testing of dielectric strength of plastics. State the factors which affects the test results.
- 3. Attempt any TWO of the following:** **16**
- a) Draw neat figure of test specimen for tensile test of plastic. Explain it test procedure.
 - b) Explain with neat figure the test procedure for exposure of plastic to U.V lamp
 - c) Explain with neat figure the testing of dielectric constant with factors affecting the test results.
- 4. Attempt any TWO of the following:** **16**
- a) Explain the following test for plastics:
 - (i) Rockwell hardness test
 - (ii) Abrasion test.
 - b) Explain test apparatus, specimen, procedure and test variables for heat deflection temperature measurement.
 - c) What do you mean by ESCR? Explain standard test method including test specimen for ESCR.
- 5. Attempt any TWO of the following:** **16**
- a) Define specular gloss? Explain with neat figure the test for measurement of specular gloss.
 - b) Explain flamability test for plastic in vertical and horizontal position.
 - c) Describe thermogravimetric analysis test for plast with neat figure of thermogram.

6. Attempt any FOUR of the following:**16**

- a) Enlist any four functions of ASTM and ISO.
 - b) Define the terms surface resistivity and volume resistivity.
 - c) Explain the test for measurement of stain resistance of plastic material.
 - d) Describe spiral mold test for thermosets with neat figure.
 - e) Explain the test procedure for resistance of plastics to fungi.
 - f) Describe quick burst test for rigid pipe.
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