

- xv) Explain the procedure to calculate the mechanical strength of a plastic material.

### SECTION-C

**Note:** Long answer type questions. Attempt any three questions. 3x10=30

Q.3 Write short note on:

- (a) Vicat softening temperature(VST)
- (b) Capillary rheometer

Q.4 What are plastics identification methods? Write about any two of them in detail.

Q.5 What are basic concepts of quality control? How to improve the quality of individual product.

Q.6 Write short note on:

- (a) Solvent resistance
- (b) Fatigue resistance

Q.7 Define tensile strength. Explain tensile strength and %age elongation at break of dumbbell shape of a plastic sample.

No. of Printed Pages : 4  
Roll No. ....

122242

**4th Sem. / Plastic Tech.**

**Subject : Plastic Testing Characterization and Quality control**

Time : 3 Hrs.

M.M. : 100

### SECTION-A

**Note:** Very Short Answer type questions. Attempt any 15 parts. (15x2=30)

- Q.1
- a) Define heat distortion temperature(HDT).
  - b) What is the unit of MFI.
  - c) What is the size of dumbbell shape specimen sample.
  - d) Define stress.
  - e) Define milling.
  - f) Expand ASTM.
  - g) Define refractive index.
  - h) Expand BIS.
  - i) Write the unit of viscosity in MKS system.
  - j) Hair burning smell in nylon. (True/False)

- k) Define specific gravity.
- l) Define creep.
- m) Define abrasion resistance.
- n) Define haze.
- o) Define density and write their unit.
- p) Define hook's law.
- q) Define glass transition temperature.
- r) Define surface resistivity.

### SECTION-B

**Note:** Short answer type questions. Attempt any ten parts 10x4=40

- Q.2
- i) Write the burning test of nylon and polystyrene.
  - ii) Explain the working of MFI test.
  - iii) How will you improve the quality of product with testing.
  - iv) Write the working procedure of cap flow test.
  - v) Explain the procedure to determine the Izod and charpy test of a plastic material.

(2)

122242

- vi) Write short note on:
  - (a) Insulation resistance
  - (b) Arc resistance
- vii) What are the basic concepts of statistical quality control.
- viii) Explain the working procedure of cone rheometer.
- ix) Explain the procedure to determine compression strength of a plastic material.
- x) How can perform the hardness of plastic and rubber materials.
- xi) Write short note on:
  - (a) Templates
  - (b) Punching
- xii) Discuss the procedure to determine the water absorption test of a plastic material.
- xiii) Write short note on
  - (a) Light transmittance
  - (b) Gloss
- xiv) What is the difference between conductor and insulator.

(3)

122242