

- Q.26 Give working principle of cone rheometer.
- Q.27 What is DSC? Where it is used.
- Q.28 Define oxygen index.
- Q.29 Name four tests performed on multi-layer blown film.
- Q.30 Define Haze. State its importance.
- Q.31 Discuss surface resistivity.
- Q.32 Explain different types of sampling methods.
- Q.33 How testing helps in improving the quality of product.
- Q.34 Discuss concept of statistical quality control.
- Q.35 Explain HDT test for plastics.

#### SECTION-D

**Note:** Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

- Q.36 Explain test procedure for:
- Tensile strength
  - Refractive Index
- Q.37 Discuss:
- ESCR test
  - Rockwell-Hardness test
- Q.38 Explain various tests performed on cellular or foam plastics.

No. of Printed Pages : 4

122242/032254/2252

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#### 4th Sem / Plastic Engineering

**Subject:- Plastic Testing, Characterization and Quality Control (PTCQC)**

Time : 3Hrs.

M.M. : 100

#### SECTION-A

**Note:** Multiple choice questions. All questions are compulsory (10x1=10)

- Q.1 \_\_\_\_\_ gives fruity smell when burn.
- PE
  - PP
  - PMMA
  - PET
- Q.2 \_\_\_\_\_ does not melt on heating.
- Thermoplastic
  - Thermoset
  - Both a & b
  - None of these
- Q.3 If we drop a piece of sample in water & it simply floats then it may be \_\_\_\_\_
- PE
  - UF
  - Nylon
  - MF
- Q.4 Which material shows wax like appearance?
- PE
  - PP
  - PTFE
  - All of them

Q.5 \_\_\_\_\_ is used to identify the plastic from the sound they produced when falling on hard surface.

- a) Crack                      b) Cycle test
- c) Sound test                d) Impact list

Q.6 Haze is measured in \_\_\_\_\_.

- a) Percentage                b) Newton's
- c) MPa                        d) Kg

Q.7 ASTM D1238 is the standard for \_\_\_\_\_ test.

- a) Tensile test                b) flexural test
- c) flame test                d) MFI

Q.8 Creep is a \_\_\_\_\_ dependent phenomenon.

- a) Temperature              b) Time
- c) Load                      d) Stress cycle

Q.9 What is SI unit of hardness?

- a)  $\text{kg/m}^3$                       b)  $\text{kg/m}^2$
- c)  $\text{g/m}^2$                       d) N/m

Q.10 In a Charpy test, high hammer velocity ensures \_\_\_\_\_

- a) High strain rate
- b) Local stresses
- c) Ductility in fracture
- d) Low stress concentration

## SECTION-B

**Note:** Objective type questions. All questions are compulsory. (10x1=10)

Q.11 Expand BIS.

Q.12 Expand MFI.

Q.13 Define compressive strength.

Q.14 Give ASTM code for tensile strength.

Q.15 Define milling.

Q.16 PVC turns \_\_\_\_\_ on overheating.

Q.17 What happens when nylon is bent?

Q.18 Give two solvents for PMMA.

Q.19 Name two tests required for testing of pipes.

Q.20 Define Gloss.

## SECTION-C

**Note:** Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

Q.21 Discuss the procedure to determine water absorption test.

Q.22 Write a short note on templates.

Q.23 Give procedure for cup flow test.

Q.24 How will you determine insulation resistance of plastic.

Q.25 Write down the test procedure for measuring izod impact strength.