

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-III (NEW) EXAMINATION – SUMMER 2024****Subject Code:3132304****Date:29-06-2024****Subject Name: Thermoset Plastics: Materials and Processing Techniques****Time:10:30 AM TO 01:00 PM****Total Marks:70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

MARKS

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|------------|--|-----------|
| Q.1 | (a) Basic characteristic of Thermoset material is differ from Thermoplastic material. Explain with suitable example. | 03 |
| | (b) List the properties of phenol formaldehyde. | 04 |
| | (c) Compare: Compression molding with Transfer Molding. | 07 |
| Q.2 | (a) List the properties of Epoxy. | 03 |
| | (b) List the application of Epoxy. | 04 |
| | (c) Explain manufacturing process of Silicon. | 07 |
| | OR | |
| | (c) List the types of compression molds and Explain about semi-positive landed mold with neat sketches. | 07 |
| Q.3 | (a) Give chemical reaction for manufacturing Phenol. | 03 |
| | (b) Explain importance of Bulk Factor in Compression Molding. | 04 |
| | (c) Explain the manufacturing process of Urea Formaldehyde with line diagram. | 07 |
| | OR | |
| Q.3 | (a) Explain manufacturing process of Bisphenol-A. | 03 |
| | (b) List the application of Polyurethane. | 04 |
| | (c) Calculate height of Powder well for semi-positive landed mold for striker of Carrom board made of thermoset material with bulk factor 6. Diameter of product: 40 mm and thickness: 5 mm. | 07 |
| Q.4 | (a) Short Note: Preforms for compression molding. | 03 |
| | (b) Explain about fitting of Pressure Pad in compression Mold with neat sketch. | 04 |
| | (c) Explain Pot type transfer molding process with neat sketch. | 07 |
| | OR | |
| Q.4 | (a) Explain chemical reaction for manufacturing Epichlorohydrin. | 03 |
| | (b) Explain about Land area of compression mold | 04 |
| | (c) List the advantages of Transfer Molding. | 07 |
| Q.5 | (a) List the special properties of silicone. | 03 |
| | (b) Explain about various types of heaters for compression molds. | 04 |
| | (c) List the process steps of Compression molding.
Draw the line diagram of Compression Molding Machine. | 07 |
| | OR | |
| Q.5 | (a) Define (1) Core (2) Cavity (3) Compression molding | 03 |
| | (b) Explain about Flash Type Mold with neat sketch. | 04 |
| | (c) List any two processing faults arise during transfer molding and give its reason and remedies. | 07 |
