

GUJARAT TECHNOLOGICAL UNIVERSITY

Diploma in Ceramic Technology

Semester: 4

Subject Name: POTTERY - II

Sr. No.	Course Content
1.	INTRODUCTION 1.1 General discussion about whitewares. 1.2 Classification of whitewares with their characteristics.
2.	RAW MATERIALS FOR CERAMIC BODIES 2.1 Plastic raw materials, such as chinaclay, ballclay & bentonite with occurrence and properties. 2.2 Comparison of various raw materials, Replacement of one raw material with other.
3.	BATCH FORMULATIONS AND CALCULATION 3.1 Molecular formula of ceramic glazes and bodies. 3.2 Conversion of batch formula from molecular formula and chemical composition of a glaze.
4.	PROCESSING OF RAW MATERIALS : 4.1 Processing of raw materials for making earthenware, stoneware and porcelainware bodies. 4.2 Processing of raw materials for making of bodies for jigger and jolleying, pressing and casting process. 4.3 Processing of raw materials for making raw glazes. 4.4 Preparation of flow chart for body making & glaze preparation. 4.5 Details of machines used in processing and their suitability. 4.6 Modern method of body preparation.
5.	FORMATION 5.1 Various method of formation, throwing, jiggering & jolleying, casting process. 5.2 Method of shaping of different types of ceramic products. 5.3 Advantages and disadvantages of one process over other process of formulation.
6.	PROPERTIES AND TESTS 6.1 Determination of tensile strength, water of plasticity and water absorption. 6.2 Method of determining modulus of rupture (MOR) test, crazing test and thermal shock resistance. 6.3 Determination of drying and firing shrinkage.

7.	APPLICATION OF WHITEWARES 7.1 Details regarding products used in construction such as, wall tiles, floor tiles and sanitary wares. 7.2 Details regarding products used in home and industrial applications. 7.3 Details regarding products used in electrical applications. 7.4 Details regarding the pollution control and safety.
8.	INDUSTRIAL VISIT to pottery industries to obtain practical know-how.

LABORATORY EXPERIMENTS:

1.	Preparation of porcelain ware body and shaping of articles by casting process.
2.	Preparation of earthenware body and shaping of articles by casting method.
3.	Preparation of stoneware body and shaping of articles by casting process.
4.	Preparation of earthenware glaze.
5.	Preparation of stoneware glaze.
6.	Preparation of porcelain ware glaze.
7.	Preparation of ceramic stain.
8.	Preparation of coloured glaze and application on wares.
9.	Determine the laboratory test of ceramic (i) Water absorption (ii) Shrinkage (iii) Compressive strength (iv) Chemical resistance (v) Crazeing test (vi) MOR

Reference Books:

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| 1. A hand book of modern pottery manufacture. | H.N.Bose |
| 2. Element of ceramics | F.H.Norton |
| 3. Ceramic glazes | Kenneth shaw |
| 4. Fine ceramics | F.H.Norton |
| 5. Ceramic calculation | A.I.Audrews. |
| 6. Ceramic whitewares | Sudhir sen |
| 7. Ceramic whitewares | Rexford new cemix |