weights 710g. Calculate Apparent Porosity, and % Water absorption.

Q.24 A casting slip is to be made by mixing 3kg of clay (density 2.2gm/cc) with water to get slurry density of slip density of 1.65gm/cc/ Calculate Porosity, and % Water absorption.

Q.25 Calculate percentage composition of the following compounds, in terms of oxides

a) Borax $Na_2B_4O_7\,10\,H_2O$

b) Lead Bisilicate $PbO\,2SiO_2$

c) Feldspar $K_2O\,Al_2O_3\,6SiO_2$

d) Gypsym $CaSO_4\,2H_2O$

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220445A

4th Sem. / Ceramic Engineering
Subject : Ceramic Process Calculations

Time : 3 Hrs. M.M. : 60

SECTION-A

Note: Multiple Choice Questions. All Questions are compulsory. (6x1=6)

Q.1 Porosity _____ strength of ceramic wares.

a) Increases

b) Decreases

c) Remain same

d) First increases then decreases

Q.2 Which of the following is not type of moisture content in ceramic bodies.

a) Physical b) Hygroscopic

c) Chemically combined d) RO Water

Q.3 Full form of LDS is

a) Low Dry content b) Linear Drying shrinkage

c) Low drying shrinkage d) Left Dry Content

Q.4 Archimedes Principles can be used to calculate

a) Density

b) Water absorption

c) Applied weight of glaze

d) All of above

Q.5 A graduated cylinder is having 250ml of slip. The weight of slip is 500gram. Then density of slip is

a) 0.5 gram/ml b) 1.0 gram/ml

c) 1.5 gram/ml d) 2 gram/ml

Q.6 Density of slurry can be increased by _____.

a) Adding Water b) Reducing Body Mix

c) Increasing Body Mix d) All of above

Section-B

Note: Objective/Completion type questions. All questions are compulsory. (6x1=6)

Q.7 Full form of VDS is _____.

Q.8 True porosity is always greater or equal to apparent porosity. (True/False)

Q.9 Formula of measuring density of solid by Archimedes Principle is _____.

Q.10 If VDS is 10% what will be the volume of ceramic tile having green size 10cm* 10cm* 5cm after firing?

Q.11 Insulation of refractories also depends on porosity. (True/False)

Q.12 Calculate molecular weight of silica.

Section-C

Note: Short answer type Question. Attempt any eight questions out of Ten Questions. (8x4=32)

Q.13 Name types of moisture content in Ceramic bodies.

Q.14 Explain significance of moisture content.

Q.15 List factors affecting shrinkage.

Q.16 Explain affect of porosity and density of ceramic products.

Q.17 Differentiate apparent porosity and true porosity.

Q.18 Define bulk density and specific gravity.

Q.19 State Archimedes principle.

Q.20 Calculate molecular weight of soda feldspar.

Q.21 From the given data Calculate Bulk density, Apparent Porosity & Water absorption. Fired weight 120gm, Saturated weight 130 gm, Suspended Weight 110 gm.

Q.22 Calculate the density of slip made by adding following composition. Clay 25kg (Specific Gravity 2.5), Feldspar 18kg (Specific Gravity 2.56) Water 12 liter.

Section-D

Note: LOng answer Question. Attempt any two questions out of three Questions. (2x8=16)

Q.23 Insulating refractory weighing 780g. On saturating in water weight 810 g and on suspending in waster it