Q.22 If the loss on ignition of red lead is 10 % , strontium oxide is 15%, quartz is 0.8 % and clay 14 % what be the fritted weight of the given batch ?

Red Lead = 200gm, Strontium Oxide = 150gm

Flint = 75gm, Clay 220gm

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x8=16)

Q.23 A typical body batch is as follows - Ball clay - 15kg, Than Clay-12kg, Feldspar-20kg Quartz - kg and these materials found to have loss on ignition of 13%, 12.4%,1% and 0%. Calculate ignited weight of the batch

Q.24 On being calcined flint shows volume changes of 17% . If before calcinations the density is 2.65gm/cc. Estimate the volume after calcinations (Loss on ignition of quartz = 0%).

Q.25 Calculate the molecular formula from given glaze recipe

Oxide	Percentage
PbO	22.80
Na_2O	06.96
K_2O	11.54
Al_2O_3	09.70
SiO_2	41.00
B_2O_3	08.00

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4th Sem / Branch : 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 Which of the following affect drying efficiency

a) Humidity

b) Temperature of Surroundings

c) Flow of air

d) All of above

Q.2 Increase in porosity _____ density of ceramic wares.

a) Increases

b) Decreases

c) Remain same

d) First increases then decreases

Q.3 Water absorption value depends on

a) Total pore volume b) Open pore volume

c) closed Pore volume d) All of above

Q.4 Unit of slip density can be

a) gram/litre b) kg/mm^3

c) gram/ml d) All of above

Q.5 Specific gravity is the ratio of density of material to

a) density of alcohol b) density of water

c) density of mercury d) All of above

Q.6 Density of slip can be decreased by adding

a) Water b) Powder

c) Quartz d) Feldspar

SECTION-B

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

Q.7 Apparent porosity include open pores.(True/False)

Q.8 Formula of linear drying shrinkage is _____.

Q.9 Formula to calculate moisture content is _____.

Q.10 Calculate the weight of 300 gram felspar after having LOI 10 % ?

Q.11 Formula of apparent porosity is _____.

Q.12 One importance of LOI.

SECTION-C

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

Q.13 A Plastic clay sample of 500 gms found to have 18 % moisture in it and on firing it weighs 395 gms. Calculate dry weight and % loss on ignition.

Q.14 Convert % liner drying shrinkage of 8.6 to % volume drying shrinkage

Q.15 Calculate the weight of water displaced by glass cube weighing 100gm with density of 2.25gm/cc when immersed in it ?

Q.16 Describe the term drying and firing shrinkage

Q.17 Describe the need for measuring moisture content of ceramic raw materials.

Q.18 Calculate average linear drying shrinkage from the following data.

Plastic Length	Dry Length
8 cm	7.5 cm
8 cm	7.3 cm
8 cm	7.6 cm

Q.19 State the Brongniert's formula.

Q.20 List out the factors affecting strength.

Q.21 Describe importance of measuring LOI.