

# Bachelor of Design (B.Des.) Examination, 2018

Semester - V

Specialization in Ceramic & Glass

Course – CG-V/03

( Materials & Product Technology-I )

Time: 3 Hours

Full Marks: 40

Questions are of value as indicated in the margin.

**Question no. 1 is compulsory and answer any three from the rest**

1. Write briefly (*any two*): 5x2=10
- Flux
  - Raku
  - Lead oxide
  - Sodium oxide
  - Borax
  - Transparent glaze
  - Opaque glaze
2. Answer *any three* from the following: 10x3=30
- Define primary clay with examples.
    - Write the mineralogical name of china clay.
    - Explain why the colour of pond clay is black.
    - Write the chemical formula of Na – Feldspar 4x2.5=10
  - Write the signification of drying. Write the name of different types of water present in a clay water system. Define shrinkage water. Briefly describe the mechanism of drying. 2+2+2+4=10
  - Briefly describe about Raw and Fritted glaze. 5+5=10
  - Explain why firing is important for ceramic body. Explain the terms bisquit firing and glost firing. Explain oxidation process. 3+3+4=10
  - What is the function of Silica in glaze? Write the difference between “Glass former” and “Viscous materials”. Explain also why Fritting is done? 2+6+2=10
  - How many glaze defects in ceramic glaze, write briefly, and write their remedies also? 2+4+4= 10
  - Calculate the batch recipe of the following glaze formula. 10

KNaO	–	0.2	KNa	–	61.9
CaO	–	0.5	Ca	–	40
BaO	–	0.2	Ba	–	137.3
ZnO	–	0.1	Zn	–	65.3
Al <sub>2</sub> O <sub>3</sub>	–	0.24	Al	–	26.9
B <sub>2</sub> O <sub>3</sub>	–	0.25	B	–	10.8
SiO <sub>2</sub>	–	2.2	Si	–	28
			O	–	16

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