



Name :

Roll No. :

Invigilator's Signature :

**CS/B.Tech/CT (N)/SEM-5/CT-503/2012-13
2012**

WHITE WARES TECHNOLOGY

Time Allotted : 3 Hours

Full Marks : 70

The figures in the margin indicate full marks.

*Candidates are required to give their answers in their own words
as far as practicable.*

GROUP – A

(Multiple Choice Type Questions)

1. Choose the correct alternatives for the following :

10 × 1 = 10

- i) In which period, there is a possibility of occurrence of crack is more
 - a) constant rate period
 - b) early falling rate period
 - c) at the leather hard point
 - d) end of falling rate period.
- ii) Spring Back Action is related to ;
 - a) Slip casting
 - b) Turning
 - c) Pressing
 - d) Trimming.



- iii) For the glaze, type of feldspar used is
- a) Na-Feldspar
 - b) K-Feldspar
 - c) Ca-Feldspar
 - d) Mixture of all these.
- iv) Dunting occurs;
- a) during preheating
 - b) during oxidation
 - c) during reducing
 - d) during cooling.
- v) One of the purpose of reducing atmosphere in kiln is
- a) to shorten firing time
 - b) to reduce maturing temperature
 - c) to reduce viscosity of glassy phase
 - d) all of these
 - e) mixture of (a) & (b).
- vi) Semiconducting glaze is applied on
- a) HT insulator
 - b) Tiles
 - c) Sanitary ware
 - d) none of these.
- vii) The main mineralogical phase in vitrified porcelain is
- a) Mullite
 - b) Fused glass
 - c) Alpha Alumina
 - d) none of these.
- viii) Which of the following act as a good opacifier
- a) Zircon
 - b) Alumino silicate
 - c) Zirconia
 - d) none of these.
- ix) Which of the following used as a coloring oxide in stain
- a) ZnO
 - b) CoO
 - c) Na₂O
 - d) none of these.

- ## GROUP – B

Answer any *three* of the following. $3 \times 5 = 15$

- 3 + 2

GROUP – C

Answer any *three* of the following. $3 \times 15 = 45$

- $$3 + 5 + 4 + 3$$



8. Explain with a sketch operation of an extruder. Write different reactions take place during heating & cooling of a white ware body. 10 + 5
9. Discuss different factors of drying. Show the shrinkage-moisture curve during drying. Discuss with schematic diagram formation of microstructure of a porcelain body. Show production of working moulds in a flow chart. 6 + 3 + 3 + 3
10. a) Discuss briefly the firing schedule of bone china body with mentioning the relevant phase diagram. What are the mineralogical phase present in fired bone china body. Discuss the cause of whiteness and translucency of bone china body. 4 + 2 + 2
- b) Discuss the flow properties of glaze slip with respect to surface tension and viscosity of glaze slip. How glaze composition affect this property. 5 + 2
11. a) Discuss briefly the factors affecting the attachment of glaze on the body. Discuss the effect of composition on glaze formulation with adjusted thermal expansion of glaze and body. What is crazing and peeling. 2 + 2 + 4
- b) Discuss the different steps for the manufacture of fast firing tiles. Why wollastonite is preferable used for the manufacture of fast firing tiles. 5 + 2
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