	Utech
Name:	
Roll No.:	To Opening State Confident
Invigilator's Signature :	

CS/B.Tech (CT)/SEM-5/CT-503/2011-12 2011 WHITEWARES – I

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.

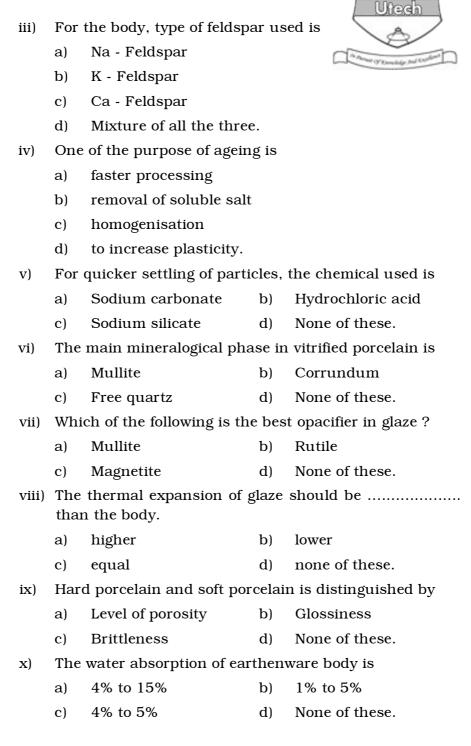
GROUP - A

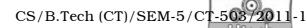
(Multiple Choice Type Questions)

- 1. Choose the correct alternatives for the following: $10 \times 1 = 10$
 - i) In which period, rate of drying can be more?
 - a) Constant rate period
 - b) Falling rate period
 - c) At the leather hard point
 - d) End of falling rate period.
 - ii) Moisture content of the dried body should be
 - a) less than 1.5%
 - b) less than or equal to 1.0%
 - c) less than 2%
 - d) 0%.

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GROUP - B

(Short Answer Type Questions)

Write short notes on any three of the following.

 $3 \times 5 = 15$

- 2. Factors for determination of firing schedule.
- 3. Filter pressing.
- 4. Slip casting.
- 5. Semiconducting glaze.
- 6. Glaze opacity and opacifier.

GROUP - C

(Long Answer Type Questions)

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

- 7. Why & how is ageing done? Explain with a sketch, operation of an extruder. Why is S-crack occurred after extrusion?

 State different shaping methods of whiteware bodies with moisture content.

 3 + 8 + 2 + 2
- 8. Discuss heat of reaction of a ceramic whiteware body. State with schematic diagram formation of microstructure during firing. Discuss internal factors of drying. 6 + 3 + 6

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- 9. What are the raw materials used for manufacture of bone china body? Discuss the chemistry of firing of bone china body mentioning the relevant phase diagram. What are the mineralogical phases present in fired bone china body? Discuss the cause of whiteness and translucency of fired bone china body.
 2 + 5 + 3 + 5
- 10. 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 ? How is it adjusted ? 4+4+4+3
- 11. What is fritted glaze? Show a descriptive flow chart for manufacture of frit. Discuss the role of viscosity and surface tension of glaze slip for its spreading uniformly. Explain how it is composition related. 2 + 3 + 6 + 4

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