	Utech
Name:	
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Invigilator's Signature :	

CS/B.Tech(CT)/SEM-6/CT-603/2011 2011

WHITEWARES-II

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) The maximum percentage of cordierite obtained from clay-talc mixture is
 - a) 60

b) 70

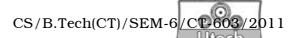
c) 80

- d) cannot be predicted.
- ii) Kiln furniture materials should have
 - a) low thermal expansion
 - b) high thermal expansion
 - c) low melting point
 - d) none of these.

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Vitr	Vitreous sanitary ware has close pores in order of		
a)	less than 0.5%	b)	more than 10%
c)	between 4 and 5%	d)	less than 10%.
Mon	noporosa is		
a)	fast fired wall tiles		
b)	double stage fired wall	tiles	
c)	recrystallised mullite		
d)	none of these.		
Whi	ch of the following op	erati	on is essential for tiles
prep	paration ?		
a)	spray drying	b)	pugging
c)	sintering	d)	none of these.
Yelle	ow core defect is mainly	due	to
a)	insufficient oxidation		
b) insufficient reduction			
c) presence of high volatile & organic matters			
d)	all of these.		
Gre	Green strength is more when body is made with		
a)	defloccuted slip		
b)	flocculated slip		
c)	without any electrolyte	9	
d)	none of these.		
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	a) c) Mor a) b) c) d) Whi prep a) c) Yell a) b) c) d) Gree a) b) c)	a) less than 0.5% c) between 4 and 5% Monoporosa is a) fast fired wall tiles b) double stage fired wall c) recrystallised mullite d) none of these. Which of the following oppreparation? a) spray drying c) sintering Yellow core defect is mainly a) insufficient oxidation b) insufficient reduction c) presence of high volation d) all of these. Green strength is more where a) defloccuted slip b) flocculated slip c) without any electrolyte d) none of these.	a) less than 0.5% b) c) between 4 and 5% d) Monoporosa is a) fast fired wall tiles b) double stage fired wall tiles c) recrystallised mullite d) none of these. Which of the following operation? a) spray drying b) c) sintering d) Yellow core defect is mainly due a) insufficient oxidation b) insufficient reduction c) presence of high volatile & d) all of these. Green strength is more when bo a) defloccuted slip b) flocculated slip c) without any electrolyte d) none of these.



- viii) Close porosity of a vitreous body lies in the range of
 - a) less than 0.5%
- b) 0.5 1.0%

c) 1 – 3%

- d) 4-6%.
- ix) Working mould is made with
 - a) Gamma Plaster of Paris
 - b) Beta Plaster of Paris
 - c) Alpha Plaster of Paris
 - d) Gypsum.
- x) Lamination crack is due to problem at
 - a) firing process
- b) shaping process
- c) filter press operation
- d) extrusion process.

GROUP - B

(Short Answer Type Questions)

Answer any *three* of the following.

 $3 \times 5 = 15$

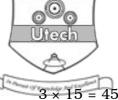
- 2. Write a short note on spark plug insulators.
- 3. What is kiln furniture? Discuss the characteristics of ideal materials for kiln furniture used in ceramic industries.
- 4. Write a short note on wear resistant ceramics.
- 5. Discuss the role of wollastonite for the fast firing wall tiles.
- 6. Discuss the firing of cordierite from clay-talc mixture.

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GROUP - C

(Long Answer Type Questions)

Answer any three of the following.



- 7. Discuss operation of a tunnel kiln along with temperature schedule and pressure curve. Why is reducing atmosphere maintained? Black core defect is observed after firing what are the possible causes for it and how will you overcome this? 10 + 1 + 4
- 8. Write the characteristics of a sanitary ware. Give the compositon of body and glaze. Write the manufacturing process of it along with process flow chart. Write different oxidation & decomposition reactions for a whiteware body. What is dunting and how will you overcome this?

1 + 2 + 6 + 3 + 3

9. What are the raw materials used for the manufacture of a cordierite body? How does cordierite fraction increase by adopting special firing technique? Why is mullite-cordierite composite of special industrial interest for selection of kiln furniture? Why is cordierite body difficult to glaze?

3 + 6 + 4 + 2

- 10. Compare the single fast firing over double stage firing for wall tile production in the Indian scenario. Give flow-chart for the production of wall tiles in industry. Why flint is pre-calcined ? 6+5+4
- 11. Define biocompatibility. Discuss clinical significance of dental ceramics. Discuss the ceramic materials used in dental ceramics. Discuss the manufacture of dental ceramics.

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