	Ullegh
Name:	
Roll No.:	To American Cy Spendings and Explanat
Invigilator's Signature :	

CS/B.Tech (CT)/SEM-6/CT-602/2010 2010 GLASS — 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 (Objective Type Questions)

1. Answer *all* questions.

 $10 \times 1 = 10$

- i) Danner process is meant for making flat glass. Yes/No
- ii) Mechanical stress cannot be removed by annealing.

Yes/No

iii) Annealing Lehr length depends of temperature profile.

Yes/No

- v) Glass Tube Rejection rates are lower than that of bulbs.

Yes/No

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- vi) Chemical durability test measures only Na_a ions in solution.

 Yes/No
- vii) Seeds & bubbles cannot be removed in a Tank Furnace.

Yes/No

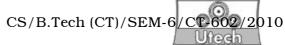
- viii) Viscosity at Furnace exit is higher than that at IS machine entry. Yes/No
- ix) Glass needs to be harder for better blowing in IS machine. Yes/No
- x) For flatness, Fourier waves decay is important in float glass. Yes/No

GROUP – B (Short Answer Type Questions)

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

- 2. Give technical data & their importance of Tin Bath in the float process.
- 3. Give details of Danner process of making bulbs.
- 4. Give comparison of rejection rates in tubes and bulbs.
- 5. For creating different thickness in four container glasses, how will viscosity-temperature curves evolve?
- 6. Show the calculations of Fourier waves decay in a float process.

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GROUP - C

(Long Answer Type Questions)

Answer any three of the following.



- 7. Using the well-known Adams-Williams mechanism of annealing, indicate the proposal of Lillie. How Stokes' Law is applied in refining?
- 8. Give details of container glass process and use viscosity-temperature curves at important points of production and their control. 6+9
- 9. What do you understand by compositional engineering? By taking two chemical components in each case, discuss three important properties of glasses and their control.6 + 9
- 10. How to adjust IS machine parameters in terms of viscosity-temperature curves at different stages of the production process? Give examples. 9 + 6
- 11. Write short notes on any *four* of the following: $4 \times 3 \frac{3}{4}$
 - i) Tube manufacture
 - ii) Amber glass production
 - iii) Optical glass production
 - iv) Importance of Critical Stress Intensity Factor
 - v) Kinetic equations for chemical durability.