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Invigilator's Signature :	

## CS/M.Tech (MTT)/SEM-2/MTT-205/2010 2010 TEXTURED YARN 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.

Answer any *five* questions.  $5 \times 14 = 70$ 

1. Explain with diagram the process of simultaneous draw texturising using principle of false twist method. Explain the function of cooling plate and function of secondary heater.

10 + 2 + 2

2. What are the three important 'T's of false twist draw texturing? Explain the functions of each in producing the desired texturing effect. What is stabilizing overfeed and why is it necessary? Why is residual torque present in the false twist draw textured yarn? How these can be minimize and removed? 1 + 5 + 2 + 2 + 2 + 2 + 2

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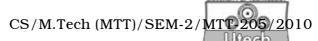
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3. What is the present status of speed of false twist draw texturing? On what factors does it depend? What are the desired properties of a polyester poy as a feed yarn of draw texturing at high speed? What is meant by 'D/Y' ratio? What are its functions and what are its effects? What are the materials used in the part that is used to impart 'D/Y' and what is the best material of texturing micro denier poy?

$$2 + 3 + 2 + 2 + 2 + 3$$

- 4. What are the basic differences between false twist texturing and air jet texturing? What are the differences in the yarn properties made through these routes? What are 'parallel' air textured yarn and 'core and effect' air texture yarn? What is the function of wetting w.r.t. air jet texturing? How 'slub' effect can be produced in air jet texturing? What is the basic difference of air jet path in air jet texturing in comparision to that used in simultaneous draw texturing for creating self intermingling? 4 + 2 + 2 + 2 + 2 + 2 + 2
- 5. In which case you will prefer edge crimping to false twist draw texturing? Explain with diagram the edge crimping process and stuffer box crimping process. Explain gear crimping process. How bulk effect can be produced by combining two yarn having different thermal behaviour?

$$2 + 3 + 3 + 3 + 3$$



- 6. Explain the following and comment on their significance
  - a) 'Necking'
  - b) 'HIM', 'SIM' and 'NIM'
  - c) 'Natural Draw Ratio'
  - d) 'Draw Force'
  - e) 'OLT'.

$$3 + 3 + 3 + 3 + 2$$

- 7. a) Explain the brief solvent texturising of polyester.
  - b) What are the factors responsible for boiling water shrinkage of a thermoplastic fibre ?
  - c) In high speed draw texturing usually primary heaters are inclined. Why?
  - d) Briefly explain with a sketch the process of self intermingling during texturing.
  - e) What are the probable reasons of getting dark warp lines while using draw textured yarn as warp?

$$4 + 2 + 2 + 4 + 2$$