

Roll No.

Printed Pages : 3

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BT-8/M12

POST SPINNING OPERATIONS

Paper-TT-430

Time allowed : 3 hours}

{Maximum marks : 100

Note : Attempt any five questions taking at least one question from each section.

Section-A

1. What are the problems faced with the use of as-spun filament yarns and what are the remedies ? Explain the design and working of a Turbostapler machine.
8+12
2. Explain the principle of stretch breaking. Discuss quench duct lubrication system for application of spin finish alongwith its advantages.
10+10

Section-B

3. What is the need for drawing of filament yarns and what type of changes take place during drawing ? Describe the load extension behaviour of an as-spun filament. Discuss the drawing behaviour of polyester (PET).
6+7+7

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[Turn over

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Section-C

4. Discuss the method of draw warping of acrylic tow. Why the mechanical properties of a two step spun-drawn yarn is much better than a single step high speed spun filament yarn ? Discuss the conversion of acrylic tow to staple fibres.
6+5+9

Section-C

5. Explain the principle of heat setting of thermoplastic fibres. Define 'setting' and 'degree of setting'. What is the effect of tension on annealing ? What is CDT ? Explain.
6+4+5+5
6. Discuss the effects of heat setting time and temperature on filament yarns. What are the methods of heat setting ? Explain one method in detail for heat setting of polyester.
10+10

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Section-D

7. Discuss the mechanism of draw texturing. How different process parameters affect the draw texturing process ? Describe the method of edge crimping of filament yarns.

6+8+6

8. Discuss the effect of different process parameters on the properties of airjet textured yarns. How the properties of airjet textured yarns are tested ?

10+10