



RM-7201

B. E. III (Sem. VI) (T.T.) Examination

May / June – 2010

Modern Yarn Production

Time : 3 Hours]

[Total Marks : 100

Instructions :

(1)

नीचे दर्शाविए निशानीवाणी विगतो उत्तरवडी पर अवश्य लभवी. Fillup strictly the details of signs on your answer book.	Seat No. :
Name of the Examination :	<input type="text"/>
<input type="text" value="B. E. 3 (Sem. 6) (T.T.)"/>	<input type="text"/>
Name of the Subject :	<input type="text"/>
<input type="text" value="Modern Yarn Production"/>	<input type="text"/>
Subject Code No. : <input type="text" value="7"/> <input type="text" value="2"/> <input type="text" value="0"/> <input type="text" value="1"/>	<input type="text" value="Student's Signature"/>
Section No. (1, 2,.....) : <input type="text" value="1&2"/>	

- (2) Answers to the **two** sections must be written in **separate** answer books.
- (3) Tie **two** sections **separately**
- (4) Figures to the **right** indicate full marks..

SECTION - I

1.(a). Answer the following :

- i Explain the term Cycle length with respect to Self twist spinning . [2]
- ii Only draw line diagram for production of Phased self twist yarn. [1]
- iii Draw the structure of Selfil yarn. [2]
- iv Raw material selected for one spinning system can be easily use for other spinning system. True or False. [1]
- v Normally, what is the pressure of air at source of supply and at nozzle in airjet spinning? [2]
- vi Which system produces a yarn with structure similar to Ring frame yarn ? [1]
- Vii _____ spinning system works with 2 drafting systems. [1]

(b). With a neat sketch explain the principle of Air jet spinning system. [10]
Also explain the mechanism of yarn formation.

2.(a). Describe DREF spinning system with Paradisc with a neat sketch. [10]

(b) Describe Siro spinning briefly. [5]

OR

2.(a). With a suitable diagram , explain the Wrap spinning system . [10]

(b). Discuss the advantages and disadvantages of Self twist spinning system [5]

3. Write Short Notes [**ANY THREE**] [15]
- (i) Vortex Spinning
 - (ii) Bobtex Spinning system
 - (iii) Advantages and disadvantages of Fiction spinning
 - (iv) Nozzles used for Airjet spinning

SECTION – II

- 4.(a). Give Reasons : [9]
- i The creel of Turbo Stapler should be slung at least 12-14 feet above the floor.
 - ii The decrease in viscosity is really advantage in fiber spinning.
 - iii Mechanism of orienting macro molecules along the flow direction during shear flow is ineffective as per Ziabicki.
- b). State whether following statements are True or False. [5]
- i The tendency to entangle increases with decreasing stiffness of the macromolecule.
 - ii A 100% crystalline polymeric fiber (if at all such fiber could be made) will be of little use as a textile fiber.
 - iii Cost of TPA is usually more than DMT.
 - iv Production cost of the fibers comes down by continuous process.
 - v Radial quenching gives more uniformity of Spun fibers.
- (c). Explain in brief Drawing of manmade fibers. [6]
- 5.(a). Discuss in brief about disadvantages of TPA route for manufacturing Polyester. [5]
- (b). Discuss in detail with curves, the effects of Temperature and stretch ratio on yarn quality in Heat-stretch zone of Turbo stapler. [10]

OR

- 5.(a). What are the basic steps involved in production of PET polymer? [5]
- (b). With a neat diagram, describe the basic working sections and various optional attachments of Pacific converter. [10]
6. Write Short Notes [**ANY THREE**] [15]
- (i) Dipping roller method of Spin finish application
 - (ii) Bicomponent fibres
 - (iii) Quenching systems
 - (iv) Wind up device