



**SF-7201**

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

**May / June - 2011**

**Modern Yarn Production**

Time : 3 Hours]

[Total Marks : 100

**Instructions :**

(1)

नीचे दशावेल निशानीवाणी विगतो उत्तरवडी पर अवश्य लपवी. 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&amp;2"/>	

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

**SECTION - I**

- 1 (a) Answer the following :
- (i) The Strength of Airjet spun yarn is more compared to Ring spun yarn. True or False. 1
- (ii) DREF - III spinning system has 3 drafting zones. True or False. 1
- (iii) Short fibres are preferred at Self Twist spinning system. True or False. 1
- (iv) \_\_\_\_\_ system is suitable to produce Fancy yarn. 1
- (v) Draw the structure of Fasciated yarn. 2
- (vi) Draw cross section of Nozzle used for Air jet spinning. 2
- (vii) Define Average self twist for Self twist spinning. 2
- (b) With a neat sketch describe Air jet spinning system. 10
- 2 (a) With a neat sketch describe DREF - I spinning system. 10
- (b) State the advantages of Friction spinning. 5

**OR**

- 2 (a) Describe principle of Self Twist spinning with neat sketch. 10
- (b) Describe advantages of Self twist spinning. 5

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**[Contd...**

- 3** Write short notes : (any **three**) **15**  
(i) Limitations of Air jet spinning.  
(ii) Bob tex spinning  
(iii) Siro spinning  
(iv) Production of Self twist twisted yarn.

**SECTION - II**

- 4** (a) Fill in the blanks : **5**  
(i) Molten polymers are non-newtonian and \_\_\_\_\_.  
(ii) The expansion of liquid thread on emerging from the spinneret is known as \_\_\_\_\_.  
(iii) \_\_\_\_\_ has been the most popular method for measuring the melt viscosity of fibre-forming polymers.  
(iv) At a molecular weight of above \_\_\_\_\_ g/mol commercial fibres can be made.  
(v) The yarn spun at speeds of around 3000-4000 m/min is called \_\_\_\_\_.  
(b) What do you mean by : **5**  
(i) Melt fracture  
(ii) Draw resonance.  
(c) Draw a neat diagram of an Industrial Melt spinning line. **5**  
(d) Give the main values of the operating conditions in POY Polyester. **5**
- 5** (a) Enlist the factors on which molecular orientation of spun tow depends. **5**  
(b) Describe in detail the principles and methods of Tow-to-yarn spinning. **10**

**OR**

- 5** (a) Define : **5**  
(i) Stretch ratio  
(ii) Gear pump.  
(b) Discuss in detail with curves, the effects of temperature and stretch ratio on yarn quality in heat-stretch zone of a Turbo Stapler. **10**
- 6** Write short notes : (any **three**) **15**  
(i) Dipping roller method of spin finish application  
(ii) The variable cut unit - Pacific converter  
(iii) Manufacture of Nylon-6 : Batch process  
(iv) Various methods of cooling configuration.