Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

B. E. Sem. - V - Examination – June- 2011

Subject code: - 152904

Subject Name: - Modern Yarn Production

Date:27/06/2011 **Time: 10:30 am – 01:00 pm**

Total Marks: 70

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1	**(a)**	Describe the basic process of rotor spinning with a neat sketch. Mention the elements which contribute to the process.	**07**
	(b)	Explain the process of production of DREF-II yarns. State the properties of these yarns.	**07**
Q.2	**(a)**	Discuss the effect of combing roller parameters on quality of fibre separation and opening achieved on a rotor spinning machine.	**07**
	(b)	Explain the false-twisting principle and compare the pin twisting and friction twisting methods.	**07**
		OR	
	(b)	Explain the process of fibre integration on a rotor spinning machine with neat diagrams.	**07**
Q.3	**(a)**	Write briefly on Compact spinning. How it helps to improve yarn quality? State different types of compact spinning systems available.	**07**
	(b)	Classify textured yarns. Mention the methods by which they are produced, along with their uses.	**07**
		OR	
Q.3	**(a)**	State the functions of rotor in rotor spinning and discuss the effect of following on quality of yarn produced:- (i) rotor speed (ii) rotor diameter (iii) rotor design	**07**
	(b)	Explain the principle of air texturing process. State the importance of nozzles in air texturing and describe any one nozzle with a neat sketch.	**07**
Q.4	**(a)**	State the advantages and limitations of rotor spinning technique.	**07**
	(b)	Explain the basic process of air-jet spinning with a neat diagram. Which is the real twisting element in this process?	**07**
		OR	
Q.4	**(a)**	With a neat diagram, describe the production of DREF-III yarns. State the properties of these yarns.	**07**
	(b)	Discuss the advantages of Automation in rotor spinning, highlighting the importance of Informator.	**07**
Q.5	**(a)**	State and discuss the significance of following in cutting method of Tow-to-Top conversion:- (i) Shuffling (ii) Variable cut attachment (iii) Blending	**07**
	(b)	State the importance of creels and heat-stretch zone in Turbo Stapler or Pacific Converter.	**07**
		OR	
Q.5	**(a)**	Explain the principle of Stretch-breaking method and state the significance of zone length.	**07**
	(b)	Write a short note on Simultaneous Draw Texturing process with a neat sketch.	**07**

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