Seat No.: _____ *Enrolment No._____*

GUJARAT TECHNOLOGICAL UNIVERSITY

M. E. - SEMESTER – I • EXAMINATION – SUMMER • 2014

Subject code: 712503N **Date: 19-06-2014**

Subject Name: Modern Weaving Technology

Time: 02:30 pm - 05:00 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)**	With reference to the Autoconer winding machine explain following: (i) Upper Yarn Sensor (ii) Quality Cut (iii) Drum lap guard	**07**
	(b)	Write on any one type of yarn tensioning unit of modern warping machine.	**07**
Q.2	**(a)**	Discuss problems associated with shuttle looms. Write briefly on techno economics of shuttleless looms.	**07**
	(b)	Write major characteristics of M8300 multiphase weaving machine. Also compare properties of fabrics made on M8300 with that of projectile loom.	**07**
		OR	
	(b)	Write briefly on modern developments of spun yarn sizing machines.	**07**
Q.3		Write short note on following: (i) Cycle of projectiles on projectile loom (ii) Shedding and beating on multiphase loom	**14**
		OR	
Q.3	**(a)**	What are the different types of projectiles? 153ò R.S. projectile loom works with 3 widths of 48ò at 280 RPM with D1 type projectile. Picking consumes 200 deg of rotation. Calculate WIR, WUR, projectile velocity and acceleration.	**07**
	(b)	Write on different features of quick style change on modern rapier looms.	**07**
Q.4		With a neat sketch explain working of rapier drive system.	**14**
		OR	
Q.4	**(a)**	Discuss effects of yarn structure and count on performance in air jet loom.	**07**
	(b)	With reference to torsion rod picking, write on following: (i) Velocity and acceleration of picker shoe (ii) Formula for axial twisting of rod (iii) Energy requirements for picking	**07**
Q.5	**(a)**	How following developments in modern shuttleless looms help improve production and/or quality? (i) Auto jet time setting (ii) Forward & backward kick (iii) ETU & ELO	**07**
	(b)	Write briefly on modern developments of prewetting used on sizing machines.	**07**
		OR	
Q.5	**(a)**	Write in brief on features of picking mechanism of water jet loom.	**07**
	(b)	Explain features of total stop mark prevention system as used on water jet loom by Toyota.	**07**

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