Seat No.: _____ *Enrolment No._____*

GUJARAT TECHNOLOGICAL UNIVERSITY

M. E. - SEMESTER – I • EXAMINATION – WINTER • 2013

Subject code: 712503N **Date: 03-01-2014**

Subject Name: Modern Weaving Technology

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)**	Explain the mathematics behind the gain in precision winding.	**07**
	(b)	"It is said that better warping is half sizing" Justify the statement.	**07**
Q.2	**(a)**	How would you ascertain quality of warp and weft to be used for shuttleless looms? Give examples wherever necessary.	**07**
	(b)	Write a short note on controls on modern sizing machine keeping in mind the special requirement of shuttleless looms.	**07**
		OR	
	(b)	Enlist various factors affecting the choice of size mixture. Write briefly on effect of hairiness on selection of size mixture.	**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)**	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**
	(b)	Examine requirements out of weft yarn to be supplied to shuttleless looms. Write in details on features of weft yarn feeders with reference to weft velocity.	**07**
Q.4		With reference to performance of yarns in air jet insertion, discuss effect of following: 1. Yarn Structure 2. Yarn count 3. Twist and Ply	**14**
		OR	
Q.4		Write short note on following: 1. Relay nozzles 2. Flow through nozzles	**14**
Q.5	**(a)**	Explain features of total stop mark prevention system as used on water jet loom by Toyota.	**07**
	(b)	Write on different features of quick style change on modern rapier looms.	**07**
		OR	
Q.5	**(a)**	Write major characteristics of M8300 multiphase weaving machine. Also compare properties of fabrics made on M8300 with that of projectile loom.	**07**
	(b)	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**

****