6.1 With increasing texturing speed the physical bulk of the yarn reduces. An increase in air pressure increases the physical bulk of the yarn. With increase in overfeed the physical bulk of the yarn increases. For 100% viscose yarn, the texturing behaviour is different. At higher overfeed levels increase in physical bulk of the yarn with increase in overfeed % is very low.

6.2 Yarn instability increases with texturing speed. Instability shows an increase with increasing air pressure. As the polyester proportion in the blend increases the instability of the resultant yarn shows a reducing tendency with increasing air pressure. The instability values of the textured yarns increases with increasing overfeed. Viscose yarns behave differently as compared to other blends. They exhibit higher instability values compared to other blends. The instability values of these yarns show a decreasing trend at higher overfed and air pressure levels.

6.3 The tenacity of the blended textured yarns decreases marginally with increase in air pressure. As the polyester content in the blend increases the tenacity increases. As the texturing speed increases the tenacity of the yarn increases marginally. A marginal reduction in tenacity occurs as the overfeed is increased.

6.4 For 100% viscose air-jet textured yarns, there is a strong interaction effect between the air pressure and overfeed on physical bulk of the yarn. Very low values of both the parameters generate low bulk in the yarn whereas an intermediate value of air pressure and overfeed combination produces highest physical bulk in the textured yarn. As the polyester content in the blends increase the physical bulk increases with a combined increase of air pressure and overfeed. Low machine speed and high overfeed combination produces higher physical bulk in the yarn for all blends under medium air pressure condition. A combination of high air pressure and low machine speed produces higher physical bulk in the yarn and a combination of low air pressure and low overfeed produces lower instability in the textured yarn. Overfeed and machine speeds do not have sufficient interaction effect on the instability of the yarn except for 100% viscose yarn. But in most of the cases the instability increases with increasing machine speed at all overfeed conditions. Air pressure and machine speed do not exhibit strong interaction
effect on the yarn instability. But in most of the cases, except with high viscose content in the blend the instability increases with increasing machine speed at any particular air pressure. No significant interaction effect is observed between the process parameters on tenacity of textured yarns.

6.5 As the polyester content in the blend increases, the air permeability reduces both in ring yarn as well as textured yarn fabrics. Textured yarn fabric provides lower air permeability as compared to the ring yarn fabrics.

6.6 The thermal resistance of the textured yarn fabrics is higher than ring-spun yarn fabrics in most of the blended yarn fabrics. The thermal resistances of fabrics increase with increasing polyester content in the blend. The normalized thermal resistance (thermal resistance per unit thickness) values of textured yarn fabrics are higher as compared to the ring yarn fabrics.

6.7 The relative water vapour permeability of textured yarn fabrics are higher than ring yarn fabrics. The water vapour permeability of the fabrics reduces as the polyester content in the blend increases.

6.8 The textured yarn fabrics show significantly higher transverse wicking values as compared to the ring yarn fabrics. An increase in the amount of polyester in the blend increases the transverse wicking of the fabric in both ring and textured yarn fabrics.

6.9 The pilling propensity of textured yarn fabrics is less as compared to the ring yarn fabrics. With increase in polyester content in the blend the pilling tendency increases rapidly in case of ring yarn fabrics.

6.10 Textured yarn and ring yarn fabrics perform more or less similarly with respect to fabric strength. The warp way strength and elongation to break of both types of fabrics are similar. In the weft direction, with increase in polyester content in the blend the fabric strength and elongation to break increases. Textured yarn weft way fabric strength shows a slower rate of increase than the ring yarn fabrics with increase in polyester content in the blend. The increase in elongation-to-break for textured yarn fabrics is more rapid when the polyester content is higher.

6.11 The abrasion resistance of the textured yarn fabrics is significantly higher than the ring yarn fabrics. With increase in polyester content in the yarns the abrasion resistance of the fabrics increases in both ring yarn and textured yarn fabrics.

6.12 The crease recovery behaviour of textured yarn fabrics are significantly lower than the spun yarn fabrics in both warp and weft direction. The weft way crease
recovery of fabrics increases with increase of polyester content in the blends. With increasing amount of polyester in the weft yarn the warp way crease recovery of spun yarn fabrics remain more or less same, whereas for textured yarn fabrics the warp way crease recovery reduces with increasing polyester content in the weft yarn.

6.13 Textured yarn fabrics show higher bending rigidity than ring yarn fabrics in the weft direction. The bending rigidity in the weft direction for textured yarn fabrics increases with increase in polyester content in the blend except for very high polyester content.

6.14 The warp way extensibility of the textured yarn fabrics are similar to spun yarn fabrics whereas the weft way extensibility of the textured yarn fabrics are significantly lower than the ring yarn fabrics.

SUGGESTIONS FOR FURTHER STUDY

- The effect of varying filament fineness and cross-section can be studied.
- In this study only plain weave is used. Other type of weaves and fabric construction parameters can be studied.
- The study can be carried out for knitted fabrics.
- Other yarn deniers with different number of filaments can be used for preparation of fabrics.
- Other types of texturing nozzles can be used to texture the blended yarns.