MINOR TEST I: TXL 131
Fabric Manufacture I
Maximum Marks: 20

Please do not write your name on answer script. Write your entry number only.

Part A should be answered on this sheet.

Entry no: 2013TT10965

PART A (10 marks)

1. If warp crimp is 10% then 100 m of warp sheet would produce 90 m. m of fabric.
2. The count value of a yarn is same in tex and Ne systems. The count of yarn is 24.3.
3. The two steps of nonwoven fabric formation are fibre formation and bonding.
4. For square jammed fabric the construction parameters are same in warp and weft directions.
5. Higher angle of coil would lead to lower in package density.
6. Slough off may occur in case of parallel wound package.
7. During over-end withdrawal, higher twist variation would occur if the supply package diameter is lower.
8. Even with the increase in package diameter, the distance between successive coil remains constant, for drum-driven winder.
9. For drum-driven winder, package diameter (d) × tanθ remains constant.
10. In constant drum driven grooved drums, the pitch and angle of the groove varies along the length.
11. For precision winding, the supply package is bigger than that of delivery package
12. Classimat III classifies short thick faults in rare but crucial categories.
13. The presence of moisture in yarn would influence the yarn unevenness measurement if the sensor is capacitance type.
14. The speed of beam warping is around 1200 m/min.
15. During warping, transfer failure is relevant for package creel.
16. Sizing materials must have excellent adhesion forming property.

17. For a given size add on%, the performance of the yarn during weaving would depend on degree of ~~degree~~ unsizing and ~~add on~~ adhesion.

18. If size paste concentration is 15% and target add on % is 15%, then 290 kg of oven dry warp sheet would pick up 290 kg of size paste.

PART B

1) a) Derive the conditions for uniform cone winding. State your assumptions clearly.

b) How the traverse speed, surface speed and net winding speed varies when the winding occurs at the tip part of the cone? [3+1]

2) A precision wider with traverse length of 20 cm is operating at constant winding speed of 1000 m/min. The spindle rpm is 3000 when the package diameter is 10 cm. What would be the spindle rpm when the package diameter increases to 20 cm? [3]

3) A multi-coloured warp of 20 tex yarn is to be wound on a sectional warping machine drum of 1 m diameter with 15^0 cone angle. The warp is 1.38 m wide and contains 6480 ends. The density of the material on beam is 576 kg/m^3. The maximum depth of yarn on the beam could be 10cm. Determine the length of warp and the traverse length per section. [3]