MINOR TEST II: 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.

4 1/2

Entry no: 2013TT10465

PART A (8 marks)

1. During cooking of starch, at degradation temperature thermal energy becomes enough to overcome the hydrogen bonding.
2. acid ✗ hydrolyzed PVA is **not** a preferred sizing material.
3. If % occupation in size box is 25% then equivalent yarn diameter is 2d ✗.
4. If add-on is 10% and concentration is 10% then the mass of water evaporated per kg of yarn would be 0.9 kg.
5. Crowning is done to ensure uniform nip pressure at the squeezing roller.
6. If the ratio of PPI to EPI is 2 and move number in vertical direction is 2, the twill angle would be tan 1 ✗
7. 6 (Six) end regular sateen cannot be woven.
8. A satin generally has more smooth ✓ and shiny ✗ warp yarns.
9. Plain woven fabric ~~cannot be~~ woven using three healds. [*can be or cannot be*]
10. For a 3 up 2 down twill weave, if the tappet shaft r.p.m. is 36 then the loom speed in r.p.m. is 180
11. For plain woven fabric, length of the treadle lever is more for the front heald.
12. The picking cams are mounted on bottom shaft.
13. Beat up is done by crank shaft.
14. The shedding can be done either by cam shaft or by ~~tappet~~ shaft.

PART B (12 marks)

1) Draw the sizing diagram and explain the benefits of using thin boiling starch. [2.5]

2) Arrange the following fabrics, produced using same yarn and same EPI and PPI, in **ascending order** of tearing strength and justify your answer. [2.5]

- Plain
- 2/2 twill
- 3/3 matt
- 9 end satin

3) Derive the expression to prove that the lift of the cam controlling the back heald is significantly higher than that cam controlling the front heald. [2.5]

4) How the distinct ~~shade~~ shed is created by varying the lift of the healds during weaving using cam shedding system? Use appropriate line diagram to explain. [2.5]

5) Show the drafting (with minimum number of healds) and lifting plan of the following design. [2]