

TXL 242: TECHNOLOGY OF TEXTILE COLOURATION

Minor-I

Max. Marks-25

4.00-5.00 PM /28-08-2016/LH-416, 418

Attempt all the questions.

1. ✓ 'Structure-a' does not show any colour while 'structure-b' shows (orange) colour – elucidate your answer with suitable reason [1+1].
 - (a). $\text{CH}_2=\text{CH}_2$
 - (b). $[\text{C}_6\text{H}_5(\text{CH}=\text{CH})_5\text{C}_6\text{H}_5]$
2. ✓ A textile dye in its structure should have at least (a) one solubilizing group and one chromophore group; (b) one chromophore and one reactive group; (c) one chromophore and one auxochrome group; (d) two chromophore and one solubilizing group
- Select the correct answer and give reason/s [1+2].
3. ✓ 'Dyeing is an exothermic process'- Do you suggest dyeing of direct dyes in room temperature? – elaborate your answer. Which of the following two forms of direct dye should have better affinity towards cotton fibre and why? ['CIS' form / 'TRANS' form] [2 + 2].
4. ✓ Do you agree with the following statement? Answer with suitable justification.
After-wash of dyed cotton is easy when we dye it with MCT dye containing $-\text{OCH}_3$ (methoxy) group instead of MCT dye containing $-\text{OCH}(\text{CH}_3)_2$ (isopropoxy) group. [1+ 2]
5. ✓ In a reactive dye solution, if you add cationically charged surfactant, do you expect any change of λ_{max} ? Give reasons for your answer. Tailing effect is more prominent when we use high affinity reactive dye in continuous dyeing operation- explain [2+1].
6. **Justify (T/F) the following statements with suitable reasons** (0.5 + 1.5, for each answer)
 - (a) Batch-wise reactive dyeing of cotton is generally carried out in a single step process.
 - (b) Monochloro triazinyl (MCL) and Bis Monochloro triazinyl dyes have similar exhaustion profile at the same temperature.
 - (c) Vinyl sulphone based reactive dyes get attached to cotton substrate by nucleophilic substitution reaction and are more suitable for discharge printing.
 - (d) Anthraquinone based vat dyes have better fastness property as compared to indigoid dyes and are more suitable for stripe effect on shirting.
 - (e) Quaternary ammonium compound can be used universally for after-treatment of cotton fabric dyed with all kinds of direct dyes.

-----The End of Question Paper-----