

TXL 242: TECHNOLOGY OF TEXTILE COLOURATION

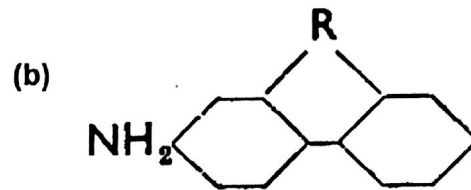
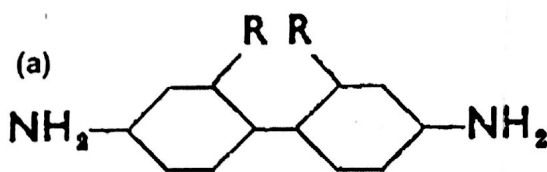
Minor-I

Max Marks-20

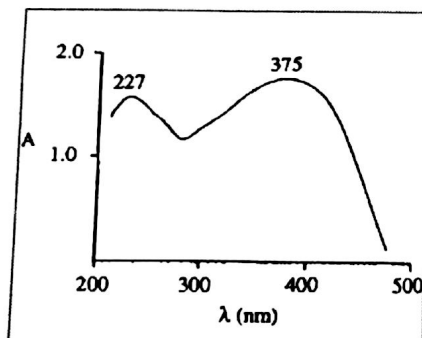
11.00-12.00 /02-09-2015/LH-121

Attempt all questions.

1. Dye manufacturer needs to consider "auxochrome" along with chromophore during synthesis of a dye- Justify the statement? Write down three chromophoric groups (in Direct dyes) which are also responsible for their substantivity towards cotton fibre. [2 + 1]
2. In the context of 'after treatment' of direct dyed cotton fabrics, a technique which is not very specific to the dye structure rather can be applicable to all types of direct dyes – explain that technology. Identify which of the following dye structures should have better affinity towards cotton fibre with suitable reason/s [2 + 1].



3. Predict two probable reasons for the characteristic of the below UV-Vis spectrum of a dye (single dye, not a mixture) dissolved in water. Explain the role of 'electrolyte' in dyeing of cotton with direct dyes. [2+1]



4. What are the technological advantages of Procion XL+ dyes? Do you think that Procion-T dye can be applied to PET/Cotton blend in a single stage process, if yes, why? [2 + 1]
5. What are the technological advantages of using Procion HE (Bis monochlorotriazine) as compared to Monochloro-triazine? What do you recommended to use, either 'low affinity' dye or 'high affinity' dye, for continuous padding operation – Justify your answer [2 + 1]
6. Ease of washing after dyeing of a cotton fabric with reactive dyes is governed by the substantivity (to the fibre) of the dye used - explain. [2]
7. What is 'Dichroism'? Explain how it can be used to identify the extent of orientation of dye molecules in the fibre structure [1+2].

phos. acid