

# TXL 242: TECHNOLOGY OF TEXTILE COLOURATION

Minor-II

Max. Marks-25

16.00-17.00 /10-10-2016/LH-416, LH-418

Attempt all questions [Ques. No. 1 to 6].

- (1). In Vat dyeing of cotton with Indanthrene Special (INS) class of dye, how do you control the levelness if you don't have leveling agent with you? What is the objective of pre-pigmentation step in batch-wise process of Vat dyeing of cotton? [2 + 2]
- (2). Weakly polar 1:2 metal complex dye yields non-skittery dyeing of wool fibre – explain. Where do you expect highest depth of shade if you dip equal amount of wool, silk and nylon 66 in the same dyeing bath of acid dye and why? [2 + 2]
- (3). In the dyeing perspective, what is the need to introduce neutral co-monomer in PAN during polymerization? There is an immense influence of variation of pH on dye-uptake of acrylic fibre containing carboxylic acid group – why? [2 + 2]
- (4). Dyeing bath for PET should be alkali free whereas reduction clearing of the dyed sample is generally carried out in alkaline condition – why? “Carrier used in PET dyeing should be reasonably non-volatile at steam” - validate the statement with reason/s. [2 + 2]
- (5). Name a process where PET can be dyed with continuous way. With graphical representation discuss the influence of temperature on dye fixation of disperse dye in dyeing of PET fabric by the same technique. Indicate the main limitation of acid dye in dyeing polyamides and suggest a remedy to compensate this. [0.5 + 1.5 + 2]
- (6). **Give suitable reason/s for the followings: [1 × 5]**
  - a) During dyeing of cotton with Vat dye, there is always a norm to use excess amount of sodium dithionite.
  - b) Leveling type acid dyes (Group-1) cover barré problem in nylon well and is applied under strong acidic pH
  - c) In the context of chrome mordant dye, shade matching is relatively difficult in case of ‘after-chrome process’ as compared to ‘on-chrome process’
  - d) Use of Sulphamic acid is recommended instead of H<sub>2</sub>SO<sub>4</sub> to dye wool fabric with ‘Palatine Fast Dye’ (1:1 Metal Complex dye).
  - e) Originally developed disperse dyes for acetate fibre were modified for their application in PET fibre.

.....The End of the Question Paper.....