Minor-II **Max. Marks-25** **11.00-12.00 /11-10-2015/LH-121**

Attempt all questions [Ques. No. 1 to 10].

## Use separate answer sheet for PART-A and PART-B

PART-A

(1). Anthraquinone based vat dyes are more suitable for stripes effect on fabric as compared to Indigoid – Comment [2].

(2). In a process house, a dyer follows the following recipes to dye a cotton fabric – explain the reasons behind to use the two types of dyeing conditions even both the dyes are Vat dye? [3].

Dye Grp.	$Na_2S_2O_4$ (gpl)	NaOH (38 ^0Be) (gpl)	Na_2SO_4 (gpl)	Temp. (^0C)
IK	2.5 – 3.5	7 – 9	10 – 15	20
IN	4 – 6	17 – 22	-	60

(3). Looking at the following dyeing recipe, identify the type of acid dye used for this dyeing cycle. Provide reasons for your answer. [1 + 2].
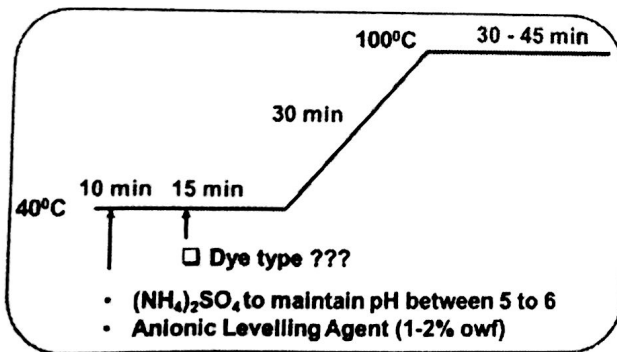
(4).

(a) In the context of 1:2 Metal Complex dye, chances of skittery dyeing is more when we use 'strongly polar' category – justify. Mention (with suitable explanation) the technological advantage of using sulphamic acid instead of sulphuric acid to dye wool fabric with 1:1 Metal Complex dye [1 + 1].

(b). Validate the following statement:

In case of 1:2 metal complex dye, 'Dye-Cr^+ $^-$OOC-Wool' is also one of the possible mechanisms for dye-fibre interaction along with 'Dye$^-$ ^+H_3N-Wool' [1].

P.T.O.

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(5). Why cationic dyeing of acrylic is carried out in acidic pH? Light fastness of Malachite Green (a basic dye) is around 1 for cotton but '3 to 4' for PAN- why this variation? Explain the role of retarding agent in basic dying operation of PAN fibre. [1+2+2].

(6). In the context of carrier dyeing of PET with disperse dye, explain the characteristics of the graph pasted at below. With a pictorial diagram explain the continuous method of polyester dyeing (1.5 + 2.5).
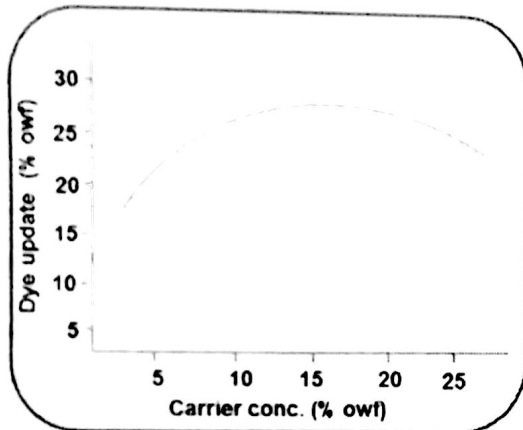
PART-B

(7). You are unlikely to encounter Crush effect or color contamination in block printing. Discuss. [1].

(8). What does a furnishing roller do? [1]

(9). Describe the role of lint doctor in engraved roller printing. [1]

(10). How can the density of gridlines (mesh or scale) be used to control the depth of engraving of copper rollers by photoengraving method? [2]

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