Sr. No. 40215211

MAHARASHTRA STATE BOARD OF VOCATIONAL EXAMINATION, MUMBAI

EXAMINATION – JULY 2014

CERTIFICATE COURSE IN WET PROCESSING OF MAN-MADE TEXTILES (402152)

TIME ALLOWED – 3 Hrs.

MARKS – 100

SUBJECT – INTRODUCTION TO TEXTILES AND APPLIED CHEMISTRY (TH-I)

Q.1 A. Fill in the blanks (Attempt any Five) **05**

1) A filament fibre is --------- in length than a staple fiber.
2) Heat Setting of fibres is done to give them ----------, --------
3) A higher ----------region in fibre increases its water absorption capacity.
4) Carbon atom or atoms are present in every --------compound's molecule.
5) Combed yarns are of a -------quality than "carded-only" yarns.
6) ----------is the chief monomer of Acrylic fibre.

B State True or False (Attempt any Five) **05**

1) Synthetic fibre are manufactured by human in factories.
2) Natural fibres cannot be melt-spun
3) Generally, synthetic fibers are more lustrous than natural fibres.
4) Wool is a natural cellulosic fibre.
5) Viscose rayon is a Synthetic fibre.
6) Shuttle less looms are more productive than shuttle looms.

C. Define (Attempt any Five) **05**

1) Staple fiber
2) pH
3) Normality
4) Molarity
5) Hardness of water
6) Surfactant

D Match the following (Attempt any Five) **05**

	Group 'A'	Group 'B'
1)	Molecule	a) Na
2)	Atom	b) $(SO_4)^{-2}$
3)	Cation	c) NA^{+}
4)	Electron	d) CI^{-}
5)	Proton	e) E
6)	Radical	f) NaCI

Q.2 Attempt any Two **16**

a) Explain electrovalency and covalent bonding with an example of each.

b) Write two structural formula and the corresponding name of any two saturated and unsaturated organic compounds.

c) What is Hydrolysis? Is it a chemical reaction? Explain with the help of two examples.

d) Explain the assessment of fastness by using gray scales for staining.

Q.3 Attempt any Two **16**

a) Give the classification of textile fibres.

b) Explain what is understood by the term Barium Activity Number.

c) Explain how the measurement of Cuprammonium fluidity helps in processing celluloses and the cellulose blended fabrics. Write the details for measuring these values on varying cellulosic blends.

d) Write about the norms for discharging an effluent outside a processing house.

Q.4 Attempt any Two **16**

a) Write the structural formula of Benzene, Naphthalene and Anthracene. Are these aliphatic compounds?

b) Write the molecular formula and one chemical property each of Calcium Carbonate, Sodium Sulphite, Sodium Sulphide and sodium Sulphate. Are these hard salts? if yes, write its name.

c) Giving two examples, write about the importance of PH in wet-processing.

d) Explain in detail, What is a dispersion. Are Disperse dyes water soluble? What happens when they are added into water?

Q.5 Write Short Notes (any four) **16**

a) Classification of looms on the basis of picking methods.

b) Tensile strength & Bursting strength of fabrics.

c) Diagram of monofilament, multifilament, ring spun and open end spun yarns.

d) Cabled yarns.

e) Fibre blending

Q.6 Attempt any Two **16**

a) Compare woolen and worsted yarns on any eight points.

b) A three ply cotton yarn is composed of 20s, 30s and an unknown count of single yarn. The resultant count of ply yarn is 10, if there is no contraction in the plying process calculate the unknown count.

c) Name and Explain primary, secondary and any three auxiliary motions of loom.

d) Compare any two types of warp knitting and weft knitting.

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TIME ALLOWED – 3 Hrs.

MARKS – 100

SUBJECT – WET PROCESSING OF TEXTILES (TH-II)

Q.1 A. Fill in the blanks. (Attempt any Five) 05

1) ----------provide solubility to the dye molecule.
2) ----------is the dye in which the color is caused by the anionic part of the dye molecule
3) ----------reduces the rate of dyeing.
4) Optimum PH for the sodium chlorite bleaching is ----------
5) Tagwa Solution is used to measure ---------efficiency.
6) Singeing refers to the burning off of not firmly bound in ---------- --------- not to the yarn of fabric.

B. State True or False (Attempt any Five) 05

1) Exhaustion percentage gives the amount of dye remaining in the dyebath.
2) Azoic colors are applied at the boil.
3) pH is kept acidic in the fixation of the reactive dye on cellulosics.
4) Small projected yarns remaining on the surface of the fabric are removed in scouring process.
5) Amylase enzyme is used for enzymatic desizing.
6) The object of crabbing is to set the fabric in a flat condition by relieving it of its strains and stresses.

C. Define (Attempt any Five) 05

1) % shade
2) Dye migration
3) Flash ageing fixation of prints
4) Shearing & Cropping
5) Tegwa rating
6) Suint scoring

D Match the following (Attempt any Five) 05

	'A' Group	'B' Group
1)	Sulphur Black Dyeing	a. Amalyse
2)	Carrier	b. Modified azoics for printing
3)	Rapidogen & Rapidfast	c. Pectinase
4)	Desizing	d. Scouring
5)	Saponification of oils	e. Swelling agents for polyester dyeing
6)	Bio scouring	f. Tendering of cellulosics

Q.2 **Attempt any Two** **16**

1) Give classification of coloring matter compare dyes & pigments on any four points.
2) Give direct dyeing procedure for cotton, reason for an after treatment and any two after treatments.
3) Give HT HP dyeing procedure for polyester and its four advantages.
4) With a neat labeled diagram describe jigger dyeing machine. State it two advantages and two disadvantages.

Q.3 **Attempt any Two** **16**

1) Define printing. Explain all three styles of printing in detail.
2) State two functions of a thickener. Name iits four types. Describe emulsion thickener with its three advantages and three disadvantages.
3) Describe pigment printing with its three advantages and three disadvantages..
4) With a neat labeled diagram describe roller printing machine. It two advantages and two disadvantages.

Q.4 **Attempt any Two** **16**

1) Give a chart for different bleaching agents used for bleaching. Describe H_2O_2 bleaching in detail.
2) Describe different processes involved in wool and silk pretreatment, Draw the flow chart for both and explain each and every process.
3) Write a sequence to get pure whiteness on grey cotton fabric. Write object of each process in short?
4) What are the objectives of heat setting? Give the conditions for setting Polyester and Nylon?

Q.5 **Attempt any Four** **16**

1) Describe fastness & fading. Name any Four fastnesses. Explain any two fastnesses with a single sentence for each.
2) Give classification of acid dyes. Describe wool dyeing with supermilling acid dye.
3) Describe Batik printing.
4) Sodium chlorite Bleaching.
5) Liquid Ammonia Mercerization
6) Insect resistant finishes.

Q.6 **Attempt any Two** **16**

1) What are the objectives of calendaring? Write down different types of calendaring effects and explain any one type of calendaring in detail with diagram.
2) Discuss flame retardant finish in details. Give examples of chemical used in flame retardancy.
3) What are the objectives of anticrease finishing? Discuss its mechanism and different methods of finishing with chemical details.
4) What are the water repellent and water proof finishes ? Explain.

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TIME ALLOWED – 3 Hrs.

MARKS – 100

SUBJECT – DYEING AND PRINTING OF TEXTILES (PR-I)

Q.1	a	Carry out hot brand reactive dyeing of given cellulosic material Weight of the fabric = --------gm %Shade =---------- MLR= 1:----------	20
	b	Carry out disperse dyeing of given polyester material Weight of the fabric = --------gm %Shade =---------- MLR= 1:----------	20
	c	Carry out white and colored khadi printing of given cellulosic material	20
Q.2		Answer the following (Any one)	20
	a	Describe dyeing of cotton with vat IN dye.	
	b	Describe printing of Polyster cotton blend fabric.	
Q.3		Oral	10
Q.4		Term work	10

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MARKS – 100

SUBJECT – BLEACHING AND FINISHING OF TEXTILES (PR-II)

Q.1		One step desizing, scouring, bleaching and optical whitening of cotton. Desizing Agent : hydrogen chloride Scouring Agent : Sodium Hydroxide, sodium carbonate, soap Bleaching whitening Agent : Leucophor PC	40
Q.2		Finishing on cotton (Attempt Any Two)	30
	a)	Anionic soft finish Auxisil XL	
	b)	Cationic soft finish Auxisoftener KI	
	c)	Wash &Wear finish Resin : Melamine formaldehyde Catalyst : Ammonium Chloride Softener : Auxisoftener KI	
	d)	Water repellent Water repellent Agent : Wax Emulsion	
	e)	Delustering finish Delustering Agent : Barium Chloride Sodium Sulphate TiO_2 & Starch	
Q.3		Write the procedure of following (Any one)	10
	a)	Write down a note on bleaching of nylon	
	b)	Write down a short note on resin finish	
Q.4		Oral	10
Q.5		Term-Work	10