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(Following Paper ID and Roll No. to be filled in your Answer Book)

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**B.Tech. (Semester-III)****SPL. THEORY EXAMINATION, 2014-15****WET PROCESSING OF TEXTILES-I***Time : 3 Hours**[Total Marks : 100***Note:** Attempt all questions. All questions carry equal marks

1. Attempt any two parts of the following:
  - (a) Name the natural and added impurities present in cotton and silk fabrics. Draw process flow diagram of cotton, silk starting from grey to bleaching.
  - (b) Explain the working of plate and roller singeing in detail with suitable diagram. Write down the limitations of gas singeing.
  - (c) Write down various bleaching agents used in cotton bleaching with their advantages and disadvantages.

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2. Attempt any two parts of the following:

- (a) Describe various enzymatic processes with their merits and demerits. How do you carried out enzymatic desizing?
- (b) What is slack mercerization? How do you carried out BAN test?
- (c) Describe the objective of heat setting. How do you ensure that heat setting of polyester fabric is done properly or not?

3. Attempt any two parts of the following:

- (a) Describe various chemical changes taking place in cotton after mercerization. Discuss role of concentration of caustic soda, temperature, tension and time in mercerization.
- (b) Why does quality of water plays important role in wet processing of textiles? Explain.
- (c) Why kiering is necessary? Describe briefly the working of different types of kier.

4. Attempt any two parts of the following:

- (a) What are the primary, secondary and tertiary colors? Discuss the essential feature of the CIE system of colors.

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5. Attempt any two parts of the following:

- (b) What is the difference between chainless and chain mercerization. Describe working of chain mercerization with important machine parameter.
  - (c) Discuss mechanism of Hydrogen peroxide bleaching. Also explain the role of peroxide stabilizer, pH in hydrogen peroxide bleaching.
- (a) Discuss multitubular kier machine with a neat sketch. What are the precautions taken in kier boiling?
- (b) Why hydrogen peroxide is called universal bleaching agent? How do you bleach cotton fabric using hydrogen peroxide bleaching agent?
- (c) Describe in detail the process of scouring and bleaching carried out in J box with suitable diagram.

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