

**B TECH
(SEM IV) THEORY EXAMINATION 2017-18
TEXTILE CHEMISTRY - I**

Time: 3 Hours

Total Marks: 100

Note: 1. Attempt all Sections. If require any missing data; then choose suitably.
2. Any special paper specific instruction.

SECTION A

1. Attempt all questions in brief. 2 x 10 = 20

- a. Explain any two impurities in jute.
- b. What is heat setting?
- c. What is the purpose of bleaching of textiles?
- d. Explain the role of natural dyes.
- e. What is the role J box?
- f. Explain yarn scouring.
- g. Difference between direct and basic dyes.
- h. Explain diazotization.
- i. Describe dye fibre bond.
- j. Role of additives in dyeing.

SECTION B

2. Attempt any three of the following: 10 x 3 = 30

- a. Compare among various desizing methods. What are HT enzymes?
- b. What are the steps involved in gas singeing? Describe the importance of each step.
- c. What are hydraulic jumbo jiggers? Describe the scouring process in this machine.
- d. How fibre structure is responsible for accepting the dyes?
- e. Compare the natural dyes with synthetic dyes. What are their advantages and disadvantages?

SECTION C

3. Attempt any one part of the following: 10 x 1 = 10

- (a) Give the process sequence for scouring with importance of each step.
- (b) Why is the heat-setting of polyester fabrics carried out before dyeing? What are the morphological changes taking place in this process?

4. Attempt any one part of the following: 10 x 1 = 10

- (a) Explain the process of bleaching of silk. Discuss universally accepted bleaching agents.
- (b) Describe the defects and damages in preparatory process; their causes and remedies.

- 5. Attempt any *one* part of the following: **10 x 1 = 10****
- (a) Discuss the significance of natural dyes in carpet industries. What are their merits and demerits?
 - (b) Describe the extraction process of dyes and their standardization.
- 6. Attempt any *one* part of the following: **10 x 1 = 10****
- (a) Briefly explain the mechanism of direct dyes and their application procedure in industry.
 - (b) Discuss the effect of various process parameters on the dyeing process. Also explain the roll of additives in dyeing process.
- 7. Attempt any *one* part of the following: **10 x 1 = 10****
- (a) What are the drawbacks of direct dyes? Describe the various methods for overcoming such problems. Which one is the most widely used in industry?
 - (b) Discuss the use of mordants for dyeing of cellulosic fibres.