



JASHORE UNIVERSITY OF SCIENCE AND TECHNOLOGY

DEPARTMENT OF TEXTILE ENGINEERING

B.Sc. in Textile Engineering Final Examination-2021

2nd Year, 2nd Semester; Session: 2019-2020

Course No. TE 2205; **Course Title:** Wet Process Engineering - I

Time: 3 hours

Answer any **SIX (06)** of the following Questions

Full Marks – 72

1. (a) Discuss about the temporary and permanent hardness of water. [4]
(b) Describe the Base-exchange process of water softening with proper illustration. [5]
(c) Classify detergent. Write down the characteristics of amphoteric detergent. [1+2]
2. (a) What are the mechanisms of removal of impurities from raw fibers? [4]
(b) Write down the process of scouring of cotton with proper recipe and illustration. [6]
(c) What are the differences between scouring and souring? [2]
3. (a) Describe the mechanism of H₂O₂ bleaching system. [4]
(b) What are the differences between peroxide and hypochlorite bleaching system. [4]
(c) Why hydrogen peroxide is called universal bleaching agent? Why acid treatment is required after hypochlorite bleaching? [2+2]
4. (a) Describe the theoretical mechanism of dyeing with proper illustration. [5]
(b) What are the differences between pigment and lakes [3]
(c) What do you think that how we see colors? Explain. [4]
5. (a) Explain the mechanism of direct dyes on cotton fabric. [5]
(b) How the metal salt treatment can improve the performance of dyed materials? [4]
(c) Explain the effect of acid on dyeing with acid dyes. [3]
6. (a) Write down the properties of basic dyes. [3]
(b) How solubilized vat dye is prepared? [3]
(c) Describe the successive stages involved in dyeing of cotton with vat dyes [6]
7. (a) Describe the function of Jigger dyeing machine with proper illustrations. [5]
(b) What are the advantages of package dyeing machine over other yarn dyeing machine? [3]
(c) Write down the features of airflow dyeing machine. [4]
8. (a) What is thickener? Write down the functions of thickener. [1+2]
(b) Write down the flowchart of screen preparation. What are the differences between discharge and resist printing? [2+2]
(c) Discuss the rheology of printing paste. [5]
