



# JASHORE UNIVERSITY OF SCIENCE AND TECHNOLOGY

## DEPARTMENT OF TEXTILE ENGINEERING

B.Sc. in Textile Engineering Final Examination-2021

3<sup>rd</sup> Year, 2<sup>nd</sup> Semester; Session: 2018-2019

**Course No. TE 3217; Course Title: Jute Process and Product Technology**

Time: 3 hours

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

Full Marks – 72

1. (a) Illustrate the micro and macro structure of jute fiber with suitable figures. [4]  
(b) How do you convert jute fiber into yarn? [2]  
(c) Sketch the material passage diagrams of jute spreader and finisher carding machine used in jute yarn manufacturing. [3+3]
2. (a) Define piling. [2]  
(b) Write down the significance of jute drawing and compare among 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> draw frame involved in jute spinning. [2+4]  
(c) Sketch the material passage diagram of a warp winding machine. [4]
3. (a) Write down the significance of the sizing process for jute weaving. [2]  
(b) What are the important motions for a jute loom? Discuss these motions shortly. [2+3]  
(c) Describe the material passage diagram of a jute loom with a neat sketch. [5]
4. (a) What are the challenges manufacturers face during jute knitting? [2]  
(b) Describe the features of simple and compound structure. [5]  
(c) Write down the main features of twill weave and mention the derivatives of jute twill weave. [2+3]
5. (a) Mention the parameters checked for quality assurance during jute yarn to fabric conversion process. [3]  
(b) State the reasons of lower color fastness to light on jute than that on wool and cotton. [3]  
(c) Write down a short note on:  
a) Chemical texturing of jute and b) Scouring of jute. [3+3]
6. (a) What do you mean by chemical finishing of jute fabrics? Discuss the “Rot-resistant finish of jute fabric” and “Water-repellent finish of jute fabric”. [1+4]  
(b) Mention the name and function of machinery used for bleaching and dyeing of jute. [4]  
(c) What do you mean by conventional jute products? State 15 conventional jute products’ name. [1+2]
7. (a) What is the woollenisation of jute? How woollenisation of jute yarn is carried out? [1+2]  
(b) How do you express jute yarn count? What is an emulsion? Why emulsion is applied to jute fiber processing? [1+1+2]  
(c) Give an outline of the manufacturing process of jute-reinforced composite. [5]
8. (a) Define JGT and describe the significance of JGT for solving most of the geotechnical problems. [1+3]  
(b) Discuss the roles of JGT in rural roads stabilization. [3]  
(c) Illustrate the scopes and challenges of jute as technical textiles. [5]