

### SECTION-D

**Note:** Long answer type questions. Attempt any two questions out of three questions. (2x8=16)

- Q.23 What is chemical pulping? Describe the kraft pulping process used in the paper industry in detail.
- Q.24 Describe the different methods used for physical debarking in a pulp mill in detail.
- Q.25 Describe the process of pulp and paper making in detail with the help of a neat block diagram.

No. of Printed Pages : 4

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220632

### 3rd Sem. / Chemical (Pulp & Paper)

### Subject : Pulping Processes

Time : 3 Hrs.

M.M. : 60

### SECTION-A

**Note:** Multiple choice questions. All questions are compulsory (6x1=6)

- Q.1 Pulp is a
- a) lignocellulosic material
  - b) synthetic material
  - c) inorganic material
  - d) organophosphatic material
- Q.2 Which of the following terms depicts the sum of all of the bases in the white liquor that could be titrated with strong acid?
- a) total alkali
  - b) total titrable alkali
  - c) active alkali
  - d) effective alkali
- Q.3 Which of the following is a main constituent of wood based raw material?
- a) carbon
  - b) nitrogen
  - c) sulphur
  - d) sodium

- Q.4 Bamboo is classified as which of the following type?
- a) wood fiber                      b) leaf fiber
- c) stalk fiber                      d) seed fiber
- Q.5 Which of the following is not a debarking equipment used in pulp industry?
- a) rotary debarker
- b) drum debarker
- c) reciprocating debarker
- d) ring debarker
- Q.6 Which of the following macromolecular substances is present in the highest quantity in the hardwood on percentage basis?
- a) lignin                              b) cellulose
- c) hemicellulose                      d) none of these

### SECTION-B

**Note:** Objective/ Completion type questions. All questions are compulsory. (6x1=6)

- Q.7 Write the name of one chemical pulping method?
- Q.8 What is the pulp?
- Q.9 Write the name of any one seed fiber used for making paper.
- Q.10 What is the bamboo?

- Q.11 Write the name of any one chipper used in pulp industry.
- Q.12 Define the sulphidity.

### SECTION-C

**Note:** Short answer type questions. Attempt any eight questions out of ten questions. (8x4=32)

- Q.13 What is the difference between white liquor & black liquor?
- Q.14 What is debarking? Why it is done?
- Q.15 Discuss the different types of fibers used for making pulp in brief.
- Q.16 Define and discuss causticity and causticizing efficiency.
- Q.17 Discuss the structure and significance of cellulose in brief.
- Q.18 What are advantages of continuous digesters over batch digesters?
- Q.19 Describe the different factors affecting quality of pulp obtained from mechanical pulping.
- Q.20 Explain the morphological analysis of fiber in brief.
- Q.21 Describe the different types of screens used in chip screening in brief.
- Q.22 What is bio-pulping? Discuss its importance in brief.