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## Seventh Semester B.E. Degree Examination, June/July 2023

### Pulp and Paper Technology

Time: 3 hrs.

Max. Marks: 100

*Note: Answer any FIVE full questions, choosing ONE full question from each module.*

#### Module-1

- 1 a. Write a note on constituents of hardwood and softwood. List the suitability of these as raw materials in pulp manufacturing. (10 Marks)
- b. List different pulping process. Draw a flow sheet listing essential unit operations in mechanical pulping. (10 Marks)

OR

- 2 a. Explain about mechanical pulping and semi chemical pulping. (10 Marks)
- b. Write a note on storage of raw materials and chipping of wood. (10 Marks)

#### Module-2

- 3 a. List the importance of pulp washing and briefly explain the continuous washer used in pulp washing. (10 Marks)
- b. List different bleaching sequences and explain salient feature of chlorine alkali extraction hypochlorite (CEHH) bleaching. (10 Marks)

OR

- 4 a. Write a note on beating of pulp. (10 Marks)
- b. Explain the importance of surface sizing in the manufacture of paper. (10 Marks)

#### Module-3

- 5 a. Write a note on drying of paper. (10 Marks)
- b. List different cutters employed in paper machine section and the need for cutting of paper. (10 Marks)

OR

- 6 a. Write a note on conversion of paper. (10 Marks)
- b. Explain the importance of paper machine drives. (10 Marks)

#### Module-4

- 7 a. List and explain different grades of paper and their uses. (10 Marks)
- b. Write a note on paper recycling. (10 Marks)

OR

- 8 a. List five specialty papers and their application. (10 Marks)
- b. Explain the parameters that are to be considered to achieve quality of paper. (10 Marks)

#### Module-5

- 9 a. Write a essential components of an effluent treatment plant in pulp and paper industry. (10 Marks)
- b. Sketch the evaporator and write a note on evaporator that concentrate weak black liquor. (10 Marks)

OR

- 10 a. List essential unit operations in chemical recovery in kraft pulping industry. (10 Marks)
- b. Write a note on important quality control in pulp and paper industry. (10 Marks)