

JK Lakshmipat University Jaipur
INSTITUTE OF ENGINEERING AND TECHNOLOGY

End Term Examination, May, 2019

M.Tech in Health, Safety and Environmental Engineering, Semester Second

Roll No.....

Course Code : MTHSE202

Time: 3:00 hours

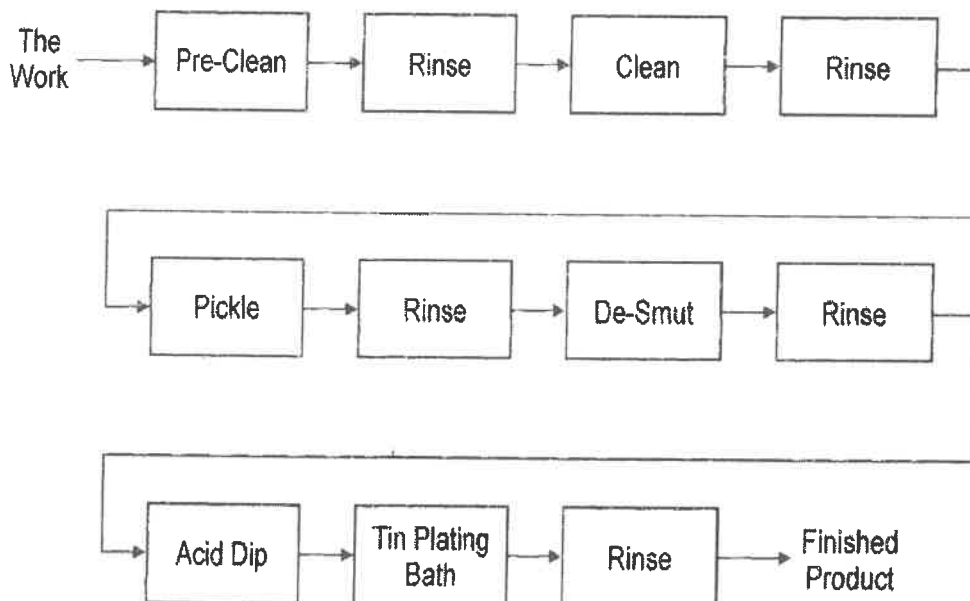
Max. Marks: 40

Course Name: Risk Analysis and Management

Instructions to students:

1. Do not write anything other than your roll number on question paper.
2. **Assume suitable data wherever required and mention it clearly.**
3. Writing appropriate units, nomenclature, and drawing neat sketches/schematics/ flow chart wherever, required are an integral part of the answer.

Q.1



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Figure-1: Schematic diagram of the tin-plating process.

Estimate the source of wastes, types of wastes, and methods for minimization of waste generated in tin-plating process.

Q.2

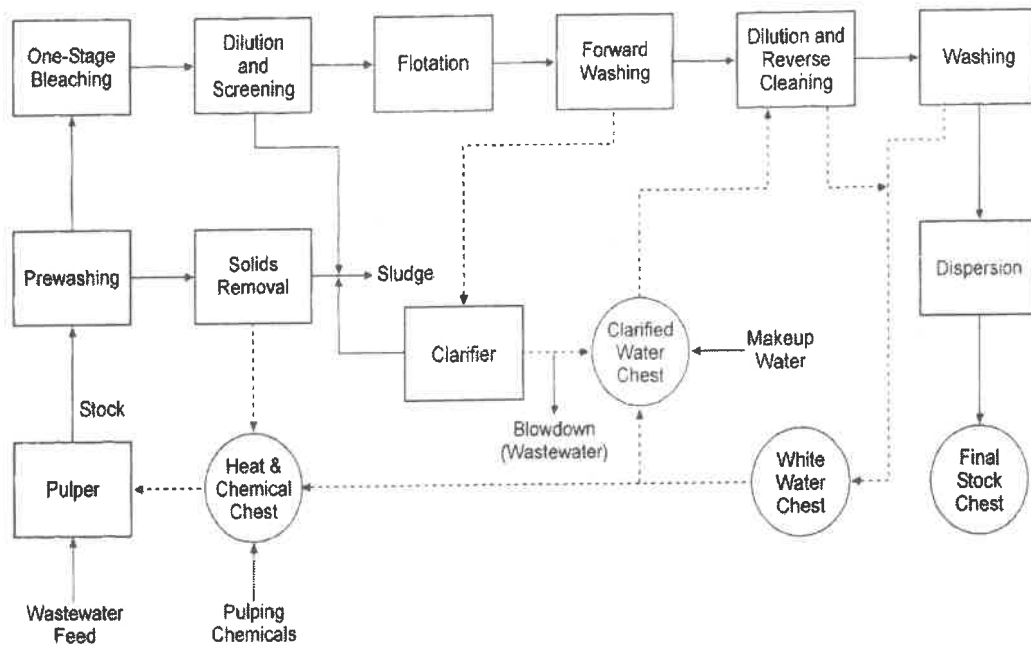


Figure-2: Ten-step de-inking process flow diagram.

Estimate the source of wastes, types of wastes, and methods for treatment of liquid waste and solid wastes generated in de-inking process of waste paper.

Q.3

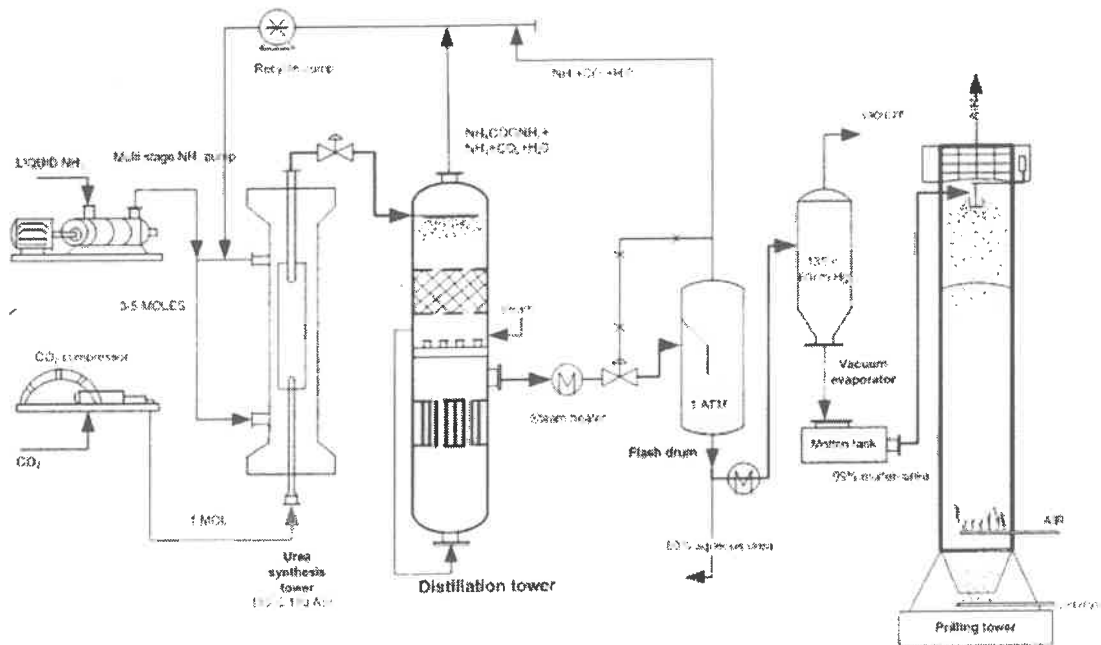


Figure-3: Process flow diagram of urea production

Estimate Process Failure Mode and Effect Analysis on above flow diagram, and also estimate the HAZOP in production of urea.

10



Which type of waste are generated in production and processing of coke. List out the source of different type of wastes. Design the treatment mechanism for solid wastes and airborne wastes from production and processing of coke.

*****All the Best*****

