

**VIT**Vellore Institute of Technology
(Deemed to be University under section 3 of UGC Act, 1956)**Continuous Assessment Test –II**Programme Name & Branch: B.Tech (Chemical Engineering)
Course Name & Code: Chemical Technology (CHE1004)

Class Number: VL2019201001168

Exam Duration: 1.5 hrs

Slot: A1 +TA1

Max. Marks: 50

Answer All Questions (5 x 10 = 50 Marks)**S.No****Questions**

1. During manufacture of urea, increasing the load on a prilling tower can have negative consequences for the prill quality. Higher moisture contents and higher temperatures cause more dust formation and an increased likelihood of caking problems. Caking can be so severe that the product becomes damaged when it is loaded on trucks or cars. Part of the product will be lost and complaints from customers may follow. How will you overcome this problem?
2. During manufacture of single super phosphate, triple super phosphate, both SiF_4 and HF are gases at ambient temperature and collected by the Den scrubbing system. The fluoride evolution is 25% increasing with increase in sulphuric acid concentration. SiF_4 hydrolyses to form silica that potentially could present maintenance problem. How will you overcome this maintenance problem?
3. With help of neat diagram, What are the three major by products obtained from extraction of sucrose from sugarcane? Also mention their application.
4. State the uses of glycerine and soap. With reaction discuss in detail the production of white glycerine and soap powder from fatty acids.
5. With the help block diagram, reactions how the Portland cement manufacturing from high grade lime stone clay also discuss about the major engineering problems.

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