

GUJARAT TECHNOLOGICAL UNIVERSITY

M.E. Chemical Engineering

Semester: I

Subject Name: **Fertilizer Technology (Major elective – I)**

Sr.No	Course content
1.	Global scenario of fertilizer production, Role of fertilizers in agriculture
2.	Conventional synthesis gas production route – Partial oxidation of heavy hydrocarbon, Steam Reforming and Shift-conversion process – Production of synthesis gas and production of ammonia, urea.
3.	Acidulation of rock phosphate using various acids. Production of ammonium phosphate, nitrophosphate and urea phosphate fertilizers.
4.	Complex fertilizers like urea, NPK.
5.	Advances in granulation process.
6.	Storage & handling of fertilizers, Design of storage of fertilizer bins
7.	Advances in fertilizers (Based on crop and land), Production patterns.
8.	Biofertilizers
9.	Environmental and Safety Issues related to fertilizer production and use, Pollution created during fertilizer production, Effect of other constituents in fertilizer on plant

Reference Books:

1. Sherve's Chemical Process Industries by George Austin
2. Outlines of Chemical Technology by Charles Dryden
3. General Chemical Technology by Shukla and Pandey