

BS (4 Years) for Affiliated Colleges



Code	Subject Title	Cr. Hrs	Semester
CHEM-415	Applied Chemistry (Sp. Theory-I)	4	VII
Year	Discipline		
4	Chemistry		

SYLLABUS OUTLINE:

1. Processing of Crude Oil:

Brief description of origin of petroleum, Migration, reservoir, exploration and drilling of crude petroleum; Various unit processes involved petroleum processing like surface operation, fractional distillation; refining, cracking; reforming, isomerization; Polymerization, alkylation and finishing processes

2. Paper and Pulp Industries:

History and back ground, survey of raw materials, production of pulp by soda process, sulphite process and Kraft (sulphate) process, Manufacture of paper environmental aspects of paper industry.

3. Fertilizer Industries (Ammonia, Urea and other Fertilizers):

(a) Ammonia:

Raw materials, various sources of hydrogen and nitrogen, manufacture of ammonia (Haber's process), its use as fertilizer and other applications.

(b) Urea:

Raw materials, manufacture of urea, assimilation in soil.

(c) Calcium Fertilizers:

Calcium ammonium nitrate, calcium cyanamide, calcium super phosphate and triple super phosphate.

(d) Potash Fertilizers:

Manufacture and use of potash fertilizers.

RECOMMENDED BOOKS:

1. Pulp and Paper Technology, Testing and Applications, K.P. Rao (2003), CBS Publishers.
2. Chemistry of Pulp and Paper making, Edwin Sutermeister, Ed-3rd (1946)
3. Fertilizers and Soil Fertility, U.S.Jones, Reston Publishing Co. Virginia, 1979.
4. Petroleum Refining Technology, Ram Parsad (2002).
5. Industrial chemistry, B. K. Sharma, Krishna Prakashan Media (P) Ltd., Ed-15 (2006).
6. Shereve's Chemical Process Industries, 5th Ed. 1975, by G.T. Austin, McGraw Hill Book Co. New York.