S.S. JAIN SUBODH P.G. COLLEGE, JAIPUR

GENERIC ELECTIVE COURSE

COURSE TITLE: INDUSTRIAL CHEMISTRY

NODAL DEPARTMENT: CHEMISTRY

COURSE CODE: 23GEC_6402T

MARKING SCHEME

Tutorial (Hours)	Time Allowed ESE (Hrs)	Course Credits	Total Marks	End Semester Exam (Max. Marks)	Assignment	Minimum Marks
30	2	2	50	35	15	20

COURSE OBJECTIVES:

1. It educates and trains Chemists to acquire a meaningful picture of Chemicalindustries.
2. Students get prepared for professional participation in Chemical industries so as to adapt themselves to jobs which are problem solving.

COURSE CONTENTS:

Cement and Glass

Portland cement; Definition, Manufacturing by Rotary kiln. Chemistry of setting andhardening of cement. Role of Gypsum.

Glass: Definition, Manufacturing by tank furnace, significance of annealing, Types and properties of soft glass, hard glass, borosilicate glass, glass wool, safety glass

(15 Hours)

Fuel Chemistry

Energy sources (renewable and non-renewable). Classification of fuels and theircalorific value.

Coal: Introduction of coal, uses of coal (fuel and non-fuel) in various industries (at least three examples), its types and composition, carbonization of coal. Coal gas,producer gas and water gas

Petroleum and Petrochemical Industry: Composition of crude petroleum, Refining anddifferent

types of petroleum products and their applications.

(15 Hours)

SUGGESTED READINGS:

1. C.A. Heaton, An Introduction of Industrial Chemistry, Blackie Academic and Profesional,3rd edition 1996
2. James D. Burrington, Industrial Catalysis: Chemistry and Mechanism,Imperial College Press,May 2016
3. E. Stocchi: Industrial Chemistry, Vol-I, , Ellis Horwood Ltd. UK.
4. R. M. Felder, R. W. Rousseau: Elementary Principles of Chemical Processes, Wiley Publishers, New Delhi.
5. W. D. Kingery, H. K: Bowen, D. R. Uhlmann: Introduction to Ceramics, Wiley Publishers, New Delhi.
6. O. P. Vermani, A. K. Narula: Industrial Chemistry, Galgotia Publications Pvt. Ltd.,New Delhi.
7. S. C. Bhatia: Chemical Process Industries, Vol. I & II, CBS Publishers, New Delhi.
8. P. C. Jain, M. Jain: Engineering Chemistry, Dhanpat Rai & Sons, Delhi.
9. R. Gopalan, D. Venkappayya, S. Nagarajan: Engineering Chemistry, Vikas Publications, New Delhi.
10. B. K. Sharma: Engineering Chemistry, Goel Publishing House, Meerut.

COURSE OUTCOMES:

On successful completion of the course the students will be able to:

1. Students will gain knowledge of the principles and scientific techniques ofindustrial Chemistry.
2. Students will be trained in the chemical, petrochemical, biochemical and allied technological fields

(Prof. K. B. Sharma)
Principal

Head of the Department