Govt. T. R. S. (Autonomous) College Rewa (M.P.)

(Affiliated to A.P.S. University Rewa)

Department of Chemistry

Syllabus for B.Sc. (Hons.) Chemistry

(CBCS & NEP 2020)

Session-2023-24

Part A - Introduction			
Program: UG	**Class: B.Sc. (Hons) Chemistry**	**Semester: III**	**Session: 2023-24**
Subject: Chemistry (Honours)			

1	**Course code**	**CHST-02**	
2	**Course title**	**Cement Analysis**	
3	**Course type**	**Skill Enhancement Course**	
4	**Pre-requisite (if any)**	**Open for All.**	
5	**Course Objective**	**The course is design to know the history of cement, chemical and physical characterizes of cement.**	
6	**Course Learning Outcomes (CLO)**	**By the end of the course, the students will be able to:** • Define basic knowledge on cement. • Explains the production of cement. • define properties of cement. • describe raw materials of cement. • explain cement production. • define cement furnace reaction. • express the composition of Clinker.	
7	**Credit Value**	**4**	
8	**Total Marks**	**Max. Marks (40+60): CCE+ESE**	**Min. Passing Marks:**

Part B – Content of the course

Total No. of Lectures-Tutorials-Practical (4 hours per week):
L-T-P: 30-0-00

Unit	Topic	No. of Lectures
1	Introduction to Cement and cement manufacturing process: What is cement and its importance in construction, History of cement and Cement manufacturing process, material composition of cement,	**5**
2	Types of Cement: Description and use of various type of Cement such as, Ordinary Portland Cement, Portland Pozzalana Cement, Portland Slag Cement, Sulphate Resistant Cement, White Portland Cement, and Low heat Cement, Masonry Cement, Oil Well Cement.	**7**
3	***Calcareous Raw Materials*:** Source of Lime, Limestone, Chalk, Marl, Industrial waste, geological distribution of limestone deposits in India, manufacture.	**7**

	***Argillaceous Raw Materials*:** Source of Silica, Alumina, Iron Oxide, Shale and effect of coal ash and additives use as corrective materials, Fly ash, Slag, lime sludge as cement raw materials.	
4	Cement manufacturing process, chemical composition of various types cement, Binary and ternary compounds of cement and formation of eutectic, role of gypsum in cement hydration process, hydration of Portland cement and strength of Portland cement.	**11**

Part C – Learning Resources

Text Books, Reference Books, Other resources

Suggested Reading:

1. Bast, F. (2016). Crux of time management for students. Available at: https://www.ias.ac.in/article/fulltext/reso/021/01/0071-0088
2. Cialdini, R.B. (2001). Influence: The Psychology of Persuasion, Revised Edition. Harper Collius.
3. Green, C.J. (2015). Leadership and soft skills for students: Empowered to succeed in High School, College and beyond. Dog Ear Publishing.
4. Velayudhan, A. and Amudhadevi, N. V. (2012). Personality Development for College Students. LAP Lambert Academic Publishing.

Suggested equivalent online:

Part D – Assessment & Evaluation

Suggested Continuous Evaluation Method

Any remark / suggestion:

This course can be opted as an elective by the students of the following subjects:

Open for All

Continuous & Comprehensive Evaluation shall be based on allotted Assignment and Class Test

Keywords:

Silica, Alumina, Iron Oxide, Shale, Portland cement, gypsum.