

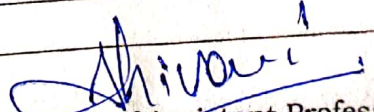
GOVERNMENT COLLEGE BIROHAR (JHAJJAR)

Summary of Lesson Plans of College Faculty for Academic Session 2025-26

Name of Assistant Professor: Dr. Shivani

Class & Sem.: B.Sc. 3rd Year, 6th Sem Subject: Inorganic Chemistry

Months	Topics/Chapters to be covered
Jan 2026	Organometallic Chemistry: Definition, nomenclature, and classification of organometallic compounds. Preparation, properties and bonding of alkyls of Li, Al, Tl, and Sn, a brief account of metal-ethylene complexes, mononuclear carbonyls and the nature of bonding in metal carbonyls.
Feb 2026	Acids and Bases, HSAB concept: Arrhenius, Bronsted-Lowry, the Lux-Flood, Solvent system, and Lewis concepts of acids and bases, relative strengths of acids and bases, concept of Hard and Soft acids and Bases, synthesis, electronegativity and hardness and softness.
March 2026	Bioinorganic Chemistry: Essential and trace elements in biological processes, metalloproteins with special reference to hemoglobin and myoglobin. Biological role of alkali and alkaline earth metal ions with special reference to Ca ²⁺ , Nitrogen fixation.
April 2026	Silicones and phosphazenes: Silicones and phosphazenes, their preparation, properties, structure and uses.


Signature of Assistant Professor

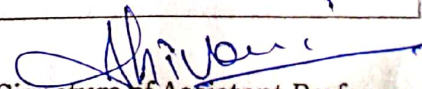
GOVERNMENT COLLEGE BIROHAR (JHAJJAR)

Summary of Lesson Plans of College Faculty for Academic Session 2025-26

Name of Assistant Professor: Dr. Shivani

Class & Sem.: SEC Chemistry, IInd Sem. Subject: Skill Chemistry: SECT II-Fuel Chemistry

Months	Topics/Chapters to be covered
Jan 2026	<p>Solid Fuels: Coal: origin, chemical composition, calorific value, classification, characteristics and distribution of Indian coals, storage and spontaneous combustion of coal, coal washing and blending, petrographic constituents of coal, carbonization of coal, manufacture and properties of metallurgical coke, recovery of by-products.</p> <ul style="list-style-type: none">• Preparation of washing soap from oils/fats.• Preparation of liquid soap from oils/fats.
Feb 2026	<p>Liquid fuels: origin and composition of crude oil, distillation and its products with special reference to gasoline, kerosene and diesel oils, cracking and reforming, coal tar distillation products, Shale oil.</p> <ul style="list-style-type: none">• To check hardness of H_2O by EDTA method.• To determine DO and COD values in given water sample.
March 2026	<p>Gaseous fuels: Natural gas, coal gas, coke oven and blast furnace gas, manufacture of water gas and producer gas, carburetted water gas, Synthetic fuels, hydrogenation of coal, Fischer-Tropsch synthesis.</p> <ul style="list-style-type: none">• To check saturation and unsaturation in organic compounds by Br_2, H_2O and Bayer's reagent.
April 2026	<p>Nuclear fuels: Introduction, nuclear fuels and nuclear reactors, moderators and structural materials, introduction to renewable energy sources.</p> <p>Combustion: combustion of solid fuels, calculation of volume and weight of air necessary for combustion of fuels, gas analysis.</p>


Signature of Assistant Professor