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| Date | Topics to be Covered | Teaching Method |
| 25-07-24  To  11-08-24 | Review of energy sources (renewable and non-renewable). Classification of fuels and their calorific value. Coal: Uses of coal (fuel and nonfuel) in various industries, its composition, carbonization of coal. Coal gas, producer gas and water gas—composition and uses. Fractionation of coal tar, uses of coal tar bases chemicals, requisites of a good metallurgical coke, Coal gasification (Hydro gasification and Catalytic gasification), Coal liquefaction and Solvent Refining. | * Lecture based instruction * Inquiry based learning * Laboratory Experiments * Flipped Classroom * Interactive simulations * Problem based learning * Blended learning |
| 13-08-24  To  26-08-24 | Petroleum and Petrochemical Industry: Composition of crude petroleum, Refining and different types of petroleum products and their applications. | * Lecture based instruction * Problem based learning * Blended learning |
| 28-08-24  To  16-09-24 | Fractional Distillation (Principle and process), Cracking (Thermal and catalytic cracking), Reforming Petroleum and non-petroleum fuels (LPG, CNG, LNG, bio-gas, fuels derived from biomass), fuel from waste, synthetic fuels (gaseous and liquids), clean fuels. Petrochemicals: Vinyl acetate, Propylene oxide, Isoprene, Butadiene, Toluene and its derivatives Xylene. | * Lecture based instruction * Inquiry based learning * Problem based learning * Blended learning |
| 18-09-24  To  30-09-24 | Lubricants: Classification of lubricants, lubricating oils (conducting and non-conducting) Solid and semisolid lubricants, synthetic lubricants. Properties of lubricants (viscosity index, cloud point, pore point) and their determination.Colorimetry Draw calibration curve (absorbance at λmax vs. concentration) for various concentrations of a given coloured compound (KMnO4/ CuSO4) and estimate the concentration of the same in a given solution. | * Lecture based instruction * Flipped Classroom * Interactive simulations * Problem based learning * Blended learning |
| 3-10-24  To  14-10-24 | A general study including preparation and uses of the following: Hair dye, hair spray, shampoo, suntan lotions, face powder, lipsticks, talcum powder, nail enamel, | * Lecture based instruction * Inquiry based learning * Problem based learning * Blended learning |
| 16-10-24  To  28-10-24 | Infrared radiation and types of molecular vibrations, functional group and fingerprint region. IR spectra of alkanes, alkenes and simple alcohols (inter and intramolecular hydrogen bonding), aldehydes, ketones, carboxylic acids and their derivatives (effect of substitution on >C=O stretching absorptions). | * Lecture based instruction * Flipped Classroom * Interactive simulations |
| 30-10-24  To  9-11-24 | creams (cold, vanishing and shaving creams), antiperspirants and artificial flavours. | * Lecture based instruction * Inquiry based learning |
| 15-11-24 Onwards | Revision for MMT  MMT Tentative | Class Test, Student Presentation, Problem Solving |
| 15-12-24  To  31-12-24 | Essential oils and their importance in cosmetic industries with reference to Eugenol, Geraniol, sandalwood oil, eucalyptus, rose oil, 2-phenyl ethyl alcohol, Jasmone, Civetone, Muscone. | * Lecture based instruction * Inquiry based learning |
| 4-02-24  To  17-02-24 | Revision and Class Test | Class Test, Student Presentation, Problem Solving |
| 18-02-24  To  29-02-24 | Revision and class test on each section based on HPU exam pattern | Class Test, Student Presentation, Problem Solving |
| March 2024 | Final Practicals |  |