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RGPV B.Tech – First Year Syllabus

BT-101: Engineering Chemistry

Unit I: Water Treatment

- Sources, impurities, hardness & its units
- Determination of hardness by EDTA method
- Alkalinity and related numerical problems

Unit II: Boiler Problems & Softening Methods

- Sludge & scale, priming & foaming, boiler corrosion
- Caustic embrittlement
- Lime-soda, zeolite, ion exchange methods

Unit III: Lubricants and Lubrication

- Mechanism, classification, viscosity and index
- Flash & fire points, cloud & pour points
- Acid number, saponification number, steam emulsification

Unit IV: Polymers & Polymerization

- Types and mechanisms (free radical, ionic)
- Thermoplastics vs thermosetting
- Biodegradable polymers, PVC, Nylon, Teflon, etc.

Unit V: Phase Equilibrium & Corrosion

- Phase diagrams (water, Cu-Ag system)
- Types of corrosion, mechanisms, prevention

Unit VI: Spectroscopic Techniques

- Electronic, vibrational, rotational spectroscopy
- Instrumentation and applications

Unit VII: Periodic Properties

- Effective nuclear charge, orbital energies
- Atomic/ionic sizes, electron affinity, electronegativity
- Polarizability and oxidation states



Download Official Syllabus

- [RGPV Notes – BT-101 Breakdown](#)
- [Career Shiksha – BT-101 Question Papers](#)

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