

# Key-words

**Chapter 1:** Activated Carbon / Adsorption / Conventional Sorbent / Non-Conventional Sorbent / Pollutants / Sorbents / Sorption / Wastewater Treatment / Water Discharges / Water Pollution

**Chapter 2:** Adsorption / Batch Methods / Biosorption / Control Sorbent Performance / Mechanism / Modeling / Regeneration / Sorbates / Sorbents / Sorption / Wastewater Treatment

**Chapter 3:** Applications / Breakthrough Curve / Column Adsorption / Column Performances / Dyes / Fixed-Bed Columns / Laboratory Scale / Mathematical Models / Metals / Organics / Pollutants / Wastewater Treatment

**Chapter 4:** Active Carbon / Adsorption / Adsorbents / Carbon Surface / Chemisorption / Hydrophobicity / Irreversible Adsorption / Phenolic Compounds / Phenols / Physisorption / Porosity / Porous Structure / Surface Area / Wastewater Treatment

**Chapter 5:** Activated Carbon / Activation Method / Adsorption / BET Surface Area / Charcoals / Chemical Groups / Chemical Treatment / Dyes / Hg Porosimetry / Humic Acids / IEP / Iodine Number / Isotherms / Pesticides / Porosity / Porous Texture / PZC / Thermal Treatment

**Chapter 6:** Adsorbents / Adsorption / Aerogels / Dyes / Heavy Metals / Humic Acids / Phenols / Pollutants / Proadhesion Compounds / Silanes / Silanol Groups / Silicas / Sol-Gel Processes / Surface Chemistry / Surfactants / Xerogels

**Chapter 7:** Agricultural Wastes / Batch Studies / Biomass / Calixarenes / Carbons / Chitosan / Clays / Colour Removal / Cyclodextrins / Dye Molecules / Industrial by-Products / Langmuir Equation / Peat / Non-Conventional Sorbents / Sorption Capacities / Starch / Zeolites

**Chapter 8:** Adsorption / Clays / Color Removal / Kaolin / Kinetic Modeling / Intraparticle Diffusion / Regeneration / Synthetic Dyes / Wastewater

**Chapter 9:** Adsorbents / Adsorption / Adsorption Equilibrium / BDST / Chemical Treatment / Column Studies / Diffusion Processes / Dyes / IR / Kinetics / PZC / Salts / Sawdust / Surfactants / Wastewater Treatment / Waste Wood Products

**Chapter 10:** Chitosan / Complexation / Batch Method / Diffusion / Fixed-Bed Column / Gels Beads / Hollow Fibers / HSAB / Ion Exchange / Isotherms / Kinetics / Metal Speciation / Polysaccharides / Sorption / Sorption Mechanisms / Swelling Behavior / Tannery Wastewaters / Ultrafiltration

**Chapter 11:** Agricultural By-Products / Beneficiation Treatments / Biomasses / Chemisorption / Coal / Controlling Mechanisms / Fly Ash / Kinetics / Langmuir Isotherm / Metal Pollutants / Natural Materials / Non-Conventional Adsorbents / Thermodynamics

**Chapter 12:** Activated Carbons / Biological Materials / Chemical Abatement / Chemical Precipitation / COD / Ion-Exchange Resins / Metal Ions / Plant Growth / Recovery / Removal / Seed Germination / Sludge / Starch / Surface-Treatment Industry / Water Discharges / Water toxicity

**Chapter 13:** Activated Alumina / Bauxite / Biopolymers / Calcium / Chitosan / Clays / Defluoridation / Fluoride / Insolubilisation / Mixed Hydroxides / Nalgonda Technique / Red Mud / Sorbents / Starch / Synthetic Resins / Water and Wastewater Treatment / Zeolites

**Chapter 14:** Batch Studies / Biomass Immobilization / Biomass Pre-Treatments / Biosorbents / Biosorption / Biosorption Continuous-Flow Experiments / Mechanisms / Functional Groups / Fungi / Fungal Biomass / Humic Acids / Inorganic Pollutants / Organics / Temperature Effect / Wastewater Treatment

**Chapter 15:** Cyclodextrin / Cross-Linked Reactions / Epichlorohydrin / Fluoride / Host-Guest Interactions / Inclusion Complex / Isocyanates Derivatives / Polymeric Network / Pollutants / Sorption Mechanism / Wastewater Treatment

**Chapter 16:** Adsorption / Anions / Calixarene / Cations / Donor-Acceptor Interactions / Heavy Metals Ions / Host-Guest Interactions / Hydrogen Bonds / Hydrophobicity / Selectivity / Solvent Extraction / Sorption

**Chapter 17:** Adsorbents / Adsorption / Adsorption Capacity / Applications / Arsenic / Congo Red / Nano-Polysaccharides / Pollutants / Porosinits / Wastewater Treatment / Nanocomposite

**Chapter 18:** Adsorption / Adsorption Capacity / Applications / Drugs / Dyes / Herbicides / Ions / Molecularly Imprinted Polymers (MIPs) / Phenols / Pollutants / Recovery Capacity / Selectivity / Sorbents / Wastewater Treatment

**Chapter 19:** Adsorption / Adsorption Models / Carbon Nanotubes / Dye Removal / Magnetic Nanoparticles / Magnetic Separation / Nanotoxicity / Pollutants