

# **KSPCB Syllabus 2018-2019 (<http://sarkarirecruitment.com/>)**

## **KSPCB General Syllabus (<http://sarkarirecruitment.com/>)**

### **General**

- Global Environmental concerns
- Types of Pollution- Natural and Man made
- Effects of Pollution
- Environmental laws of India
- Global conventions for environment protection

### **Air pollution**

- Design of Pollution Control Equipments
- Operation & Maintenance of Air Pollution Control
- Air Pollution- source and effects.
- Air Pollution controls System
- Objective & salient features of Air ( Prevention & Control of Pollution)1981
- Ambient Air Quality Standards

### **Solid Waste**

- Source, Composition and effects
- Municipal Solid Waste
- Objective and salient features of Municipal Solid Waste Management & Handling

### **Industrial Effluent**

- Operation and Maintenance of ETP
- Effluents treatment methods
- Source and effects
- Design of Treatment Plants

### **Noise**

- Noise Control measures
- Sources and their effects
- Ambient Noise Standards

### **Hazardous Waste**

- Objective and Salient features of Hazardous Waste( Management& Handling 1989)

### **Water Pollution**

- Objective & salient features of water (Prevention & Control of Pollution) 1974
- Sewage Pollution-sources and effects
- Design of Sewage Treatment Plants (STP)
- Operation and Maintenance of STP
- Sewage treatment methods
- Design of UGD system/Water supply

### **Hospital Waste**

- Treatment and disposal of Bio-medical waste
- Types of Biomedical Waste generated in Hospital.
- Objective and salient features of Bio-medical (Management&Handling)1998

### **KSPCB Assistant Scientific Officer Syllabus (<http://sarkarirecruitment.com/>)**

#### **The periodic table and Atomic properties**

- The long form of periods table
- Atomic properties
- Cause of periodicity
- Cause of recurrence of properties. Division of elements into s.p.d and blocks

#### **Oxidation & Reduction**

- Sign of electrode potentials
- Oxygen overvoltage
- Single electrode potential
- Galvanic cells
- Nernst the equation
- Hydrogen overvoltage
- Oxidation number
- Electrochemical series
- Applications of electrochemical series

#### **Acids and Bases**

- Arrhenius concept
- HAS Bconcept and illustration
- Lux- Flood concept, Superacids
- Proton transfer theory
- The concept of Lowry and Bronsted

#### **Chemical Bonding**

- Types
- Ionic radius ratio rule
- Lattice energy
- Coordinate
- Hydrogen and agnostic bonds
- Ionic
- Covalent

### **Solvent Extraction**

- Definition
- Masking and salting-out agent
- Techniques
- A sequence of the extraction process
- Factor affecting extraction oxidation state
- Modifiers
- Types
- Batch and continuous extraction
- Principal and efficiency of extraction
- Synergistic

### **Colourimetry and Spectrophotometry**

- Photoelectric colourimeters
- Theory of Colorimetry and Spectrophotometry
- Photoelectric spectrophotometers

### **Electro-Chemistry**

- Nernst equation
- Primary, secondary and lithium batteries
- Electrochemical energy sources- Batteries
- Classification, characteristic
- Redox system
- Arrhenius theory of strong and weak electrolytes and its limitation

### **Statistical Treatment of Analytical Data and Sampling**

- Classification of errors
- Accuracy and precision
- A minimisation of errors
- Systematic errors, source
- Effects and their reduction

- Significant figure
- Quality control and quality assurance
- Accreditation system
- Representative sample
- Sample storage
- Sample pretreatment and sample preparation
- Hazards in sampling
- Mean, Median and standard deviation
- Sampling and handling
- Quality in analytical laboratories

### **Conductometry**

- General considerations
- Applications of conductometric titrations
- Basics of conductometric titrations, Apparatus and measurements
- The measurement of conductivity
- The conductometric titrations