

4th SEMESTER
DISCIPLINE SPECIFIC COURSE (CORE-4)
WM420C: WATER MANAGEMENT: WATER POLLUTION AND CONTROL

CREDITS - THEORY-4, PRACTICAL-2
MAXIMUM MARKS: 60 MINIMUM MARKS: 24

Objectives/Expected Learning Outcomes: The objectives of the course are to describe different types and sources of water pollution and various types of control mechanisms for conservation and protection of water resources.

UNIT-I: Water pollution-I

15 Hours

1. Water pollution: concept
2. Sources of water pollution (domestic, industrial and agricultural)
3. Classification of water pollutants (physical, chemical and biological)
4. Consequences of water pollution
5. Health hazards of water pollution

UNIT-II: Water pollution-II

15 Hours

1. Surface water pollution
2. Marine water pollution
3. Groundwater pollution
4. Eutrophication
5. Thermal pollution

UNIT-III: Control of water pollution-I

15 Hours

1. Control of eutrophication in lakes and wetlands
2. Role of microbes in pollution abatement
3. Role of aquatic plants in pollution abatement
4. Control of stream water pollution
5. Management of groundwater pollution

UNIT-IV: Control of water pollution-II

15 Hours

1. Technology/ Products for water pollution control
2. Integrated water resource management
3. Ecosan
4. Environmental communication and public awareness
5. Water ethics and religious teachings

PRACTICAL (2 CREDITS - 60 HOURS) MAXIMUM MARKS: 30 MINIMUM MARKS: 12

1. Determination of nitrates in water sample
2. Determination of phosphates in water sample
3. Determination of biological oxygen demand in water sample from a lake
4. Determination of COD in waste water
5. Study of aquatic vegetation in lake ecosystems
6. Study of spring watershed management