**KARIM CITY COLLEGE, JAMSHEDPUR**

**DEPARTMENT OF BOTANY**

SYLLABUS DISTRIBUTION

AS PER FYUGP, NEP -2022

**MINOR SEMESTER VII**

**SEMESTER - VII Paper Title – Minor Paper – 1 (MN- 1D)**

**CREDIT-04 [THEORY- 03 + PRACTICAL- 01]**

**Global Environmental Issues**

**DR.AFTAB ALAM KHAN:**

**Course Outcomes: - At the end of the course the students will be able to:**

1. Understand the fundamental issues of environment

2. Analyze different sources of environmental problems and methods of measurement of pollution.

 3. Examine economic growth and quality of life

4. Examine the microbiology of waste water treatment and its various schemes

Full Mark - 60 Time: - 3 Hrs. 10 lectures

**Unit I:**

Environment and Environmental Problems Basic concepts and issues, global

environmental problems - ozone depletion, UV-B, greenhouse effect and acid

rain due to anthropogenic activities, their impact and biotechnological approaches for management.

**Unit II 10 lectures:**

Environmental pollution - types of pollution, sources of pollution,

Measurement of pollution, methods of measurement of pollution, fate of

Pollutants in the environment, Bio concentration, bio/demagnification

**DR. SHARMILA CHAKRABORT**

**Unit III 10 lectures:**

Environmental Economics: Basic concept; methods of evaluation; Economic

Growth, Gross National Productivity and the quality of life, Tragedy of

Commons, Economics of Pollution control, Cost-benefit and cost effectiveness analysis

**Unit IV: 15 lectures:**

Microbiology of Waste Water Treatment Aerobic process - activated sludge,

Oxidation ponds, trickling filter, towers, rotating discs, rotating drums,

Oxidation ditch. Anaerobic process - anaerobic digestion, anaerobic filters, up

Flow anaerobic sludge blanket reactors. Treatment schemes for waste waters

Of dairy, distillery, tannery, sugar and antibiotic industries.