KAZI NAZRUL UNIVERSITY

RANIGANJ GIRLS COLLEGE

ASSIGNMENT-2021-2022

NAME :- NANDINI SHARMA

CLASS:-1ST SEM (POLITICAL SCIENCE HONS)

COLLEGE ROLL NO :- 407

SUBJECT :- EVS

RGC-113211210143

Raniganj Girls' College

Course Name: Environment Studies

Course Code: AEE101

Topic of the project: Water pollution

A Project Report

Submitted by Semester-I students (Academic Year 2021-22)

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CERTIFICATE

This is to certify that this project titled "Water pollution" submitted by the students for the award of degree of B.A. Honours/ Program is a bonafide record of work carried out under my guidance and supervision.

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Place: Raniganj

Mousumita Pal

Date: 18.03.2022

Assistant Professor, Department of Zoology

Signature of the supervisor with designation and department

Kazi Nazrul University

Asansol West Bengal - 713340

REGISTRATION CERTIFICATE

This is to certify that NANDINI SHARMA

Son/Daughter of RABINDRA NATH SHARMA

of RANIGANJ GIRLS' COLLEGE

is registered as a student of this University,

His/Her registration number is 113211210143 *of* 2021-22

8/3/22

3/22

Registrar

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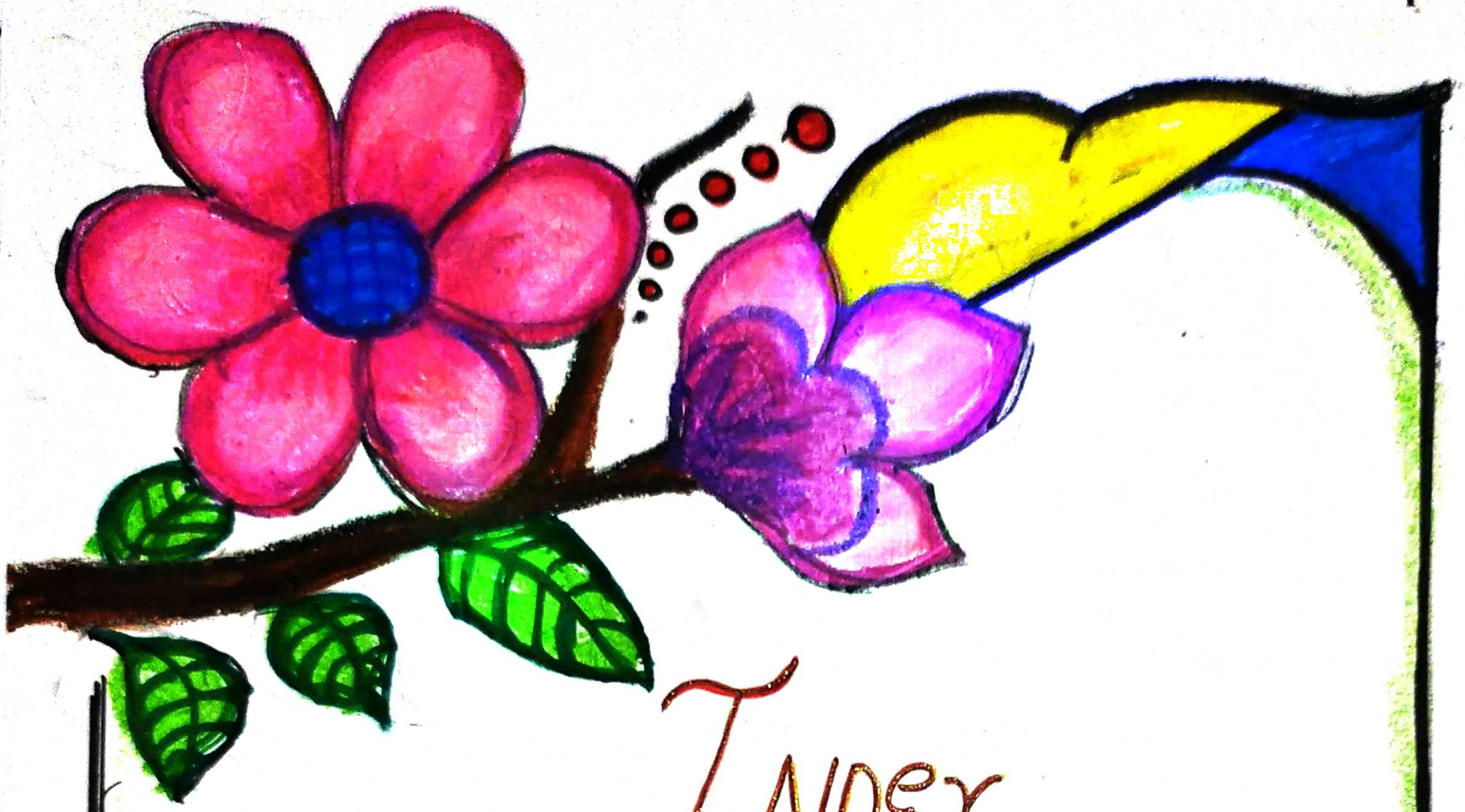
TOPIC :-

WATER POLLUTION IN RANIGANJ CITY



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WATER POLLUTION

Water is the most essential natural wealth. Water is essential for agriculture, industries, for domestic purposes, for irrigation, for sewage transhipment, for removal of wastes & to maintain health. Due to rapid development of industries but unscientific disposal of industrial effluents the ponds lakes, canals, stream, rivers, bogs all have been or are being polluted in more or lesser degrees. Pollution of water is a man created problem. The rivers & the seas have become the dumping grounds of all sorts of water, be it industrial, be it domestic.

Water pollution is the release of substances into bodies of water that makes water unsafe for human use & disrupts aquatic ecosystems. Water pollution can be caused by a plethora of different contaminants, including toxic waste, petroleum, & disease-causing microorganisms.

TYPES OF WATER POLLUTION

1. Surface water Pollution - Point source Pollution, & Non-Point Source Pollution.
2. Nutrients Pollution.
3. Oxygen Depleting.
4. Groundwater Pollution.
5. Microbiological Pollution.
6. Suspended Matter.
7. Oil spillage.
8. Chemical Pollution.

Water contamination is categorized based on the source or the nature of the water body it affects. Some of the most common types of pollution are these.

CAUSES OF WATER POLLUTION

1. Rapid Urban Development.
2. Improper Sewage Disposal.
3. Fertilizer Run-off.
4. Oil spills.
5. Chemical waste Dumping.
6. Radioactive waste Discharge.
7. Industrial waste.
8. Mining Activities.
9. The burning of fossil fuels.
10. Chemical Fertilizer & Pesticides.
11. Global warming.
12. Underground storage Leakage. etc.

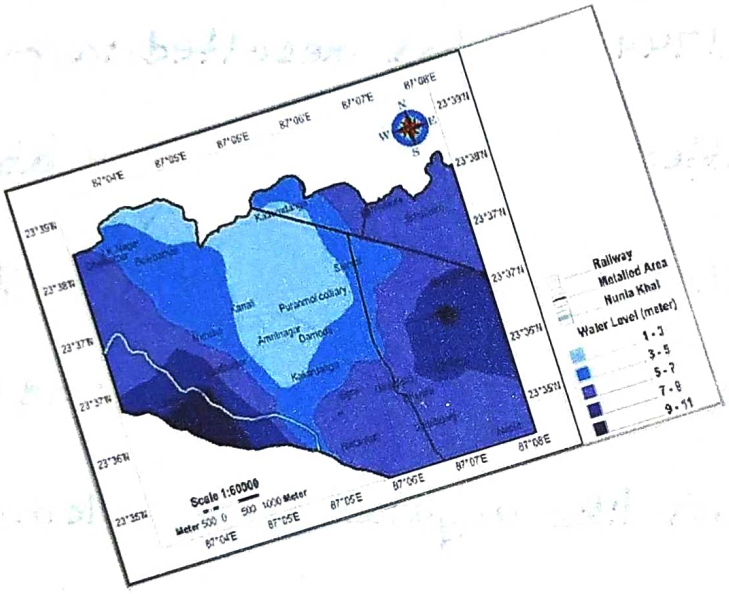
To Avoid Water Pollution

1. Effective legal steps should be taken by declaring the discharge or dumping of waste in the river or any other water source illegal.
2. The organic matter should be oxidised before handling it.
3. Chemical substances, such as bleaching powder, etc. should be used to destroy the bacteria in the water.
4. Nuclear tests being carried out in the seas at the international level should be stopped.
5. Awareness should be created in the society and the general public about the dangers of water pollution.

WATER POLLUTION IN RANIGANJ CITY

In Raniganj area has a long history of coal mining started from 1744. This has resulted in major change in land use pattern & high groundwater abstraction leading to drinking water especially during the pre-monsoon period. In the present day, land use, land cover by using techniques like vegetation & settlements of roads. But the decreased mining activity expenses, which reflected in the increased in area of overburden dump, barren land, waste land & abandoned quarry filled with water.

Mining threatens the quality & quantity of surface & ground water resources in many part of the world.


Railway
Metalled Area
Nunia Khal
Water Level (meter)
1 - 3
3 - 5
5 - 7
7 - 9
9 - 11
Scale 1:60000
Meter 500 0 500 1000 Meter
Purbamol colliary
Amritnagar
Damodar
Kalipahar
Kanai
87°04'E
87°05'E
87°06'E
87°07'E
87°08'E
23°39'N
23°38'N
23°37'N
23°36'N
23°35'N

As there is no proper water management plan at most mines in India, water is often discharged without any treatment or beneficial use. There, it may pollute the natural surface drainage & other water resources including groundwater. Mine water can vary greatly in the concentration of contaminants present & some mine water discharges can be a potential water resource, where the local water demands for industrial, irrigation, & even drinking & domestic uses can be fulfilled by effective utilization. The quality of the surface water as well as the groundwater in the region may be adversely affected by the high pollutants concentrations in this mine water. it is also reveal that hardness of surface water due to $CaCO_3$ is 117.43mg/lt. But alkalinity is minimum in monsoon season.

Due to fresh water discharge from surrounding sewage, Dissolved Oxygen become higher in Monsoon time in comparison to other two seasons. In Monsoon season there will be lots of water in everywhere but not clean. In our area 77 mine water sample were analyzed to asess water quality & suitability for domestic, industrial & irrigation uses but not for drinking. We have to clean the water by bleaching power, Alum etc. for drink. These mine water means coalfield water is not better for our health. But It be better when we should clean the water by some home remedy.

ACKNOWLEDGEMENT

I would like to express my special thanks of gratitude to my teacher **MRS. MOUMITA PAL** who gave me the golden opportunity to do this wonderful project which also helped me in doing a lot of research and I came to known about so many new thing I am thankful to them.

Secondly I would also like to thank my parents and friends who helped me a lot in finalizing this project within the limited time frame .

Nandini Sharma

1st Sem Political Honours

8/3/22