

(ENVIRONMENTAL SCIENCE)

Q. Eutrophication is a phenomena caused by the abnormal growth of algae in water body. What are the reasons of algal bloom and how can this phenomenon be controlled?

Ans

(1) Eutrophication

It is an excessive and abnormal plant and algal growth in the water bodies due to increased levels of growth factors.

Ques 2/

(2) TYPES OF EUTROPHICATION

2.1) Natural Eutrophication

It is caused naturally. It is relatively slower, requires months and years to happen.

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2.2) Cultural Eutrophication

It is instigated by human activities.

It is faster and requires weeks and even days to happen. ✓

3) CAUSES OF EUTROPHICATION ; Reasons of Algal bloom

3.1) Agricultural Runoff

Agrochemicals such as fertilizers used in agricultural practices contain excessive nitrogen and phosphorous.

When the rains and irrigation wash these nutrients from fields into water bodies, they cause eutrophication

3.2) Waste Water Discharge

The untreated sewage from domestic

sources contains nitrogen and

phosphorous from human waste and

detergents. When it is discharged

into nearby water, it causes algal bloom.

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Industrial Sources

The treated and untreated waste to from industries like food industry, fertilizer industry ~~contains~~ growth factors. When this liquid waste is discharged into water bodies, it causes algal growth.

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Aqua culture

Fish farms also cause algal bloom when they release excessive nitrogen and phosphorous into water bodies.

4)

PROCESS OF EUTROPHICATION

i)

The fertilizer from croplands when runoff by rains into water bodies causes algal growth

make a flow chart of it

ii)

The excessive algal growth causes disturbance in the penetration of solar heat into the water body.

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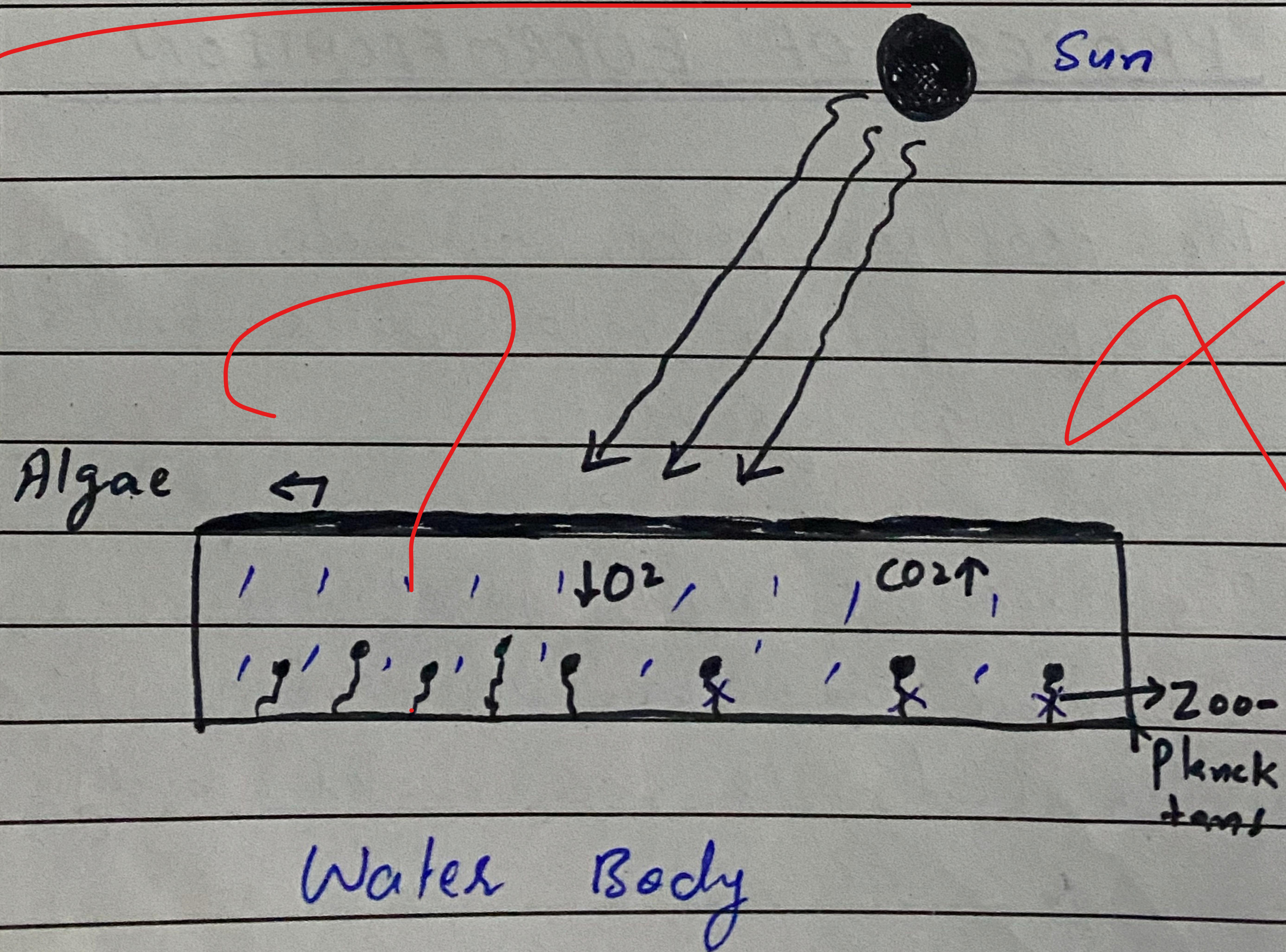
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iii) Due to the lack of solar heat, smaller plants begin to die

iv) This leads to decomposition of these dead plants

v) The decomposition decreases levels of oxygen and increases those of carbon dioxide in water body.

vi) The fisheries, zooplanktons, and other organisms start to die due to decrease levels of oxygen.



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5) IMPACTS OF EUTROFICATION

- i) It adulterates the water quality.
- ii) It reduces the oxygen levels of the water bodies.
- iii) It causes biodiversity loss.
- iv) It causes health risks to animals as well as humans.
- v) It worsen the aesthetic value of water bodies.

6) CONTROLLING MEASURES FOR EUTROFICATION

6.1) Sustainable Agriculture

Eutrophication can be controlled by reducing the use of fertilizers.

Moreover, separate mitigation systems to evacuate the water of croplands should be adopted.

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IN
ISLAM AND WEST:
WHAT ARE ISLAMIC
VALUES IN
THEIR
ORIGIN AND
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6.2) Waste Water Treatment
Eutrophication can be reduced by the treatment of waste water, coming from domestic and industrial sources. This can be done by processes such as filtration, and Biological nutrient removal BNR

6.3) ECOLOGICAL RESTORATION
Ecological restoration can reduce the algal growth by introducing such organisms which can eat algae. For instance, ~~for~~ introducing Tilapia into water body, which eat algae.

6.4) ENVIRONMENTAL AWARENESS
Educating people about the causes and consequences of eutrophication, as well as telling them about the importance of controlling it is necessary, to control eutrophication.

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6.5) IMPLEMENTING SUSTAINABLE DEVELOPMENT GOALS (SDGs)

✓ Implementing sustainable development goals by meeting the needs of today and not compromising the future of next generation can also reduce eutrophication.

6.6) NATIONAL EFFORTS ARE REQUIRED

✓ Eutrophication can be controlled by introducing policies and laws to control it. Moreover, it must be controlled through effective implementation system which involves government, public and related stakeholders like industrialists, farmers.

a very bland and average answer
remember this is not a 10th class
it does not look upto the mark
bland and basic childish points
not satisfactory
read the syllabus carefully 5/20