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Q59

Biological Oxygen Demand (BOD) is a standard criterion for (a) Measuring oxygen levels in blood (b) Computing oxygen levels in forest ecosystems (c) Pollution assay in aquatic ecosystems (d) Assessing oxygen levels in high altitude regions Official key: C.

UPSC Civil Services Prelims 2017 · General Studies · 2 marks · Environment and Ecology

Environment, ecology, climate, biodiversity - Prelims GS Paper I.

Explanation**(a)**

Measuring oxygen in blood is a medical/physiological test (pulse oximetry, arterial blood gas), not BOD. Biological oxygen demand is not a haematology criterion. This option is not the key.

(b)

Forest ecosystems are not assayed by BOD. Terrestrial oxygen and productivity use other ecological measures. This option is therefore wrong.

(c) Official key

Biological Oxygen Demand is the amount of dissolved oxygen consumed by microbes while decomposing organic matter in water over a fixed period (commonly five days at 20°C). High BOD means high organic pollution in rivers, lakes and effluents. It is the standard pollution assay for aquatic ecosystems, so (c) is the official key.

(d)

High-altitude oxygen is a physiological and meteorological issue, not BOD. This option is not the key.

Summary

Official key is (c) Pollution assay in aquatic ecosystems. BOD tracks how much oxygen decomposers take from a water sample, so it grades organic pollution of sewage and rivers. It is not a blood test, a forest-oxygen index, or an altitude measure. **COD** is a related but chemical oxidant test. Only (c) names BOD's use.

Related possible facts

These can be asked in a future Prelims paper.

BOD5

Five-day BOD at 20°C, common regulatory standard

COD

Chemical Oxygen Demand; stronger oxidant, includes non-biodegradable load

DO

Dissolved oxygen; falls when BOD is high

BIS / CPCB

Use BOD among criteria for river-water and effluent standards

Eutrophication

Nutrient enrichment that often raises BOD and kills fish

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