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Q38

Recently, the term "pumped-storage hydropower" is actually and appropriately discussed in the context of which one of the following? (a) Irrigation of terraced crop fields (b) Lift irrigation of cereal crops (c) Long duration energy storage (d) Rainwater harvesting system Official key: C.

UPSC Civil Services Prelims 2024 · General Studies · 2 marks · Environment and Ecology
Environment, ecology, climate, biodiversity - Prelims GS Paper I.

Explanation

(a)

Terraced irrigation. Pumped storage is not that.

(b)

Lift irrigation of cereals. Different pumps, different purpose.

(c) Official key

Long-duration energy storage. Pump up when power is cheap; generate when it is scarce.

(d)

Rainwater harvesting. Not pumped-storage hydro.

Summary

Official key is (c). Pumped-storage hydropower moves water between two reservoirs to store electricity for hours to days - long-duration energy storage. It is not an irrigation or rainwater-harvesting scheme.

Related possible facts

These can be asked in a future Prelims paper.

PSH

Pumped storage hydropower; the bulk of the world's grid-scale storage.

Round-trip efficiency

Typically ~70-80% for pumped hydro.