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Q32

For the measurement/ estimation of which of the following are satellite images/remote sensing data used? 1. Chlorophyll content in the vegetation of a specific location 2. Greenhouse gas emissions from rice paddies of a specific location 3. Land surface temperatures of a specific location Select the correct answer using the code given below (a) 1 only (b) 2 and 3 only (c) 3 only (d) 1, 2 and 3 Official key: D.

UPSC Civil Services Prelims 2019 · General Studies · 2 marks · Science and Technology

Science, technology, space, defence, IT - Prelims GS Paper I.

Explanation**(a)**

(a) 1 only. Chlorophyll/vegetation indices from satellites are real, but greenhouse-gas sensing over **rice paddies** and land-surface temperature are also established remote-sensing products, so 1 only is not the key.

(b)

(b) 2 and 3 only. Those two are valid uses, but dropping chlorophyll is incomplete, so this is not the key.

(c)

(c) 3 only. **LST** is only one of the three listed applications, so 3 only is not the key.

(d) Official key

(d) 1, 2 and 3. Optical indices estimate chlorophyll/vegetation greenness; microwave and other missions constrain **methane** and related fluxes from rice; thermal infrared gives land-surface temperature. All three uses are live, so this is the official key.

Summary

Official key is (d) 1, 2 and 3. Remote sensing is not only pretty pictures: vegetation chlorophyll, paddy-related greenhouse gases, and surface temperature are all retrieved from satellite sensors. Honour the stored letter (d).

Related possible facts

These can be asked in a future Prelims paper.

NDVI / EVI

Greenness and chlorophyll proxies

LST

Land surface temperature from thermal IR

Methane

GOSAT, Sentinel-5P TROPOMI class sensors

Rice paddies

Flooded anaerobic methane source

Askable twin

ISRO Resourcesat / Bhuvan applications

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