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Q93

With reference to bio-toilets used by the Indian Railways, consider the following statements: 1. The decomposition of human waste in the bio-toilets is initiated by a fungal inoculum. 2. Ammonia and water vapour are the only end products in this decomposition which are released into the atmosphere. Which of the statements given above is/are correct? (a) 1 only (b) 2 only (c) Both 1 and 2 (d) Neither 1 nor 2 Official key: D.

UPSC Civil Services Prelims 2015 · General Studies · 2 marks · Current Affairs and GK

Current events, government schemes, miscellaneous GK - Prelims GS Paper I.

Explanation**(a)**

Statement 1 is false. Indian Railways bio-toilets use a bacterial (anaerobic) **inoculum** developed with DRDE, not a fungal **inoculum**. '1 only' is not the key.

(b)

Statement 2 is false. **Anaerobic digestion** yields methane, carbon dioxide and water, among other residues; ammonia and water vapour are not the only end products, nor are they simply vented as the sole outputs. This option is therefore wrong.

(c)

Both statements fail. This option is not the key.

(d) Official key

- **Neither statement is correct:** the **inoculum** is bacterial, and the gas/water story in statement 2 is wrong. This option is the official key.

Summary

Official key is (d) Neither 1 nor 2. Bio-toilets on Railways rely on anaerobic bacteria that digest human waste in tanks under the coach. Fungi are not the starter culture. End products include biogas (methane and CO₂) and treated effluent, not 'only ammonia and water vapour'. Both claims therefore fall.

Related possible facts

These can be asked in a future Prelims paper.

DRDE Gwalior

Defence Research and Development Establishment; bacterial consortium for bio-toilets

DRDO-Railways

Partnership to fit bio-toilets on coaches

Anaerobic digestion

CH₄ and CO₂ as principal biogas components

Inoculum

Living bacterial seed, not fungal

Open-discharge toilets

Older practice bio-toilets were meant to replace

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