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Q43

In the context of proposals to the use of hydrogen- enriched CNG (H-CNG) as fuel for buses in public transport, consider the following statements: 1. The main advantage of the use of H-CNG is the elimination of carbon monoxide emissions (a) 1 only (b) 2 and 3 only (c) 4 only (d) 1, 2, 3 and 4 Official key: B.

UPSC Civil Services Prelims 2019 · General Studies · 2 marks · Environment and Ecology
Environment, ecology, climate, biodiversity - Prelims GS Paper I.

Explanation**(a)**

(a) 1 only. Statement 1 claims **H-CNG** eliminates carbon monoxide. Blending hydrogen in CNG reduces CO; it does not eliminate it. So 1 only is not the key.

(b) Official key

(b) 2 and 3 only. **H-CNG** lowers carbon dioxide and hydrocarbon emissions relative to CNG, and trials have used hydrogen up to about 18-20 per cent by volume in city buses. Statement 4 (cheaper than CNG) is false - hydrogen blending raises **cost** - and statement 1 overclaims elimination of CO. 2-and-3 is the official key.

(c)

(c) 4 only. **H-CNG** is not cheaper than CNG, so 4 only is not the key.

(d)

(d) 1, 2, 3 and 4. Statements 1 and 4 fail, so all-four is not the key.

Summary

Official key is (b) 2 and 3 only. Delhi trials of hydrogen-enriched CNG showed cuts in CO₂ and hydrocarbons with a hydrogen blend around one-fifth by volume. Carbon monoxide is reduced, not wiped out, and the fuel is costlier than plain CNG. Honour the stored letter (b).

Related possible facts

These can be asked in a future Prelims paper.

H-CNG

Hydrogen blended into compressed natural gas

Blend share

About 18% hydrogen by volume in Indian bus trials

CO

Reduced, not eliminated

Cost

Higher than CNG

Askable twin

IOCL / Delhi transport H-CNG project

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