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Q41

Consider the following types of vehicles: I. Full battery electric vehicles II. Hydrogen fuel cell vehicles III. Fuel cell-electric hybrid vehicles How many of the above are considered as alternative powertrain vehicles? (a) Only one (b) Only two (c) All the three (d) None Official key: C.

UPSC Civil Services Prelims 2025 · General Studies · 2 marks · Current Affairs and GK
Current events, government schemes, miscellaneous GK - Prelims GS Paper I.

Explanation

(a)

Only one. Battery-electric and hydrogen fuel-cell are both alternative powertrains, so the count is not one.

(b)

Only two. That drops the fuel-cell-electric hybrid, which the official key counts as a third listed type.

(c) Official key

All the three. A full **BEV**, a hydrogen **FCEV**, and a fuel-cell-electric hybrid are all treated as alternative powertrain vehicles on this paper.

(d)

None. These are electric-traction architectures, not a conventional ICE-only driveline.

Summary

Official Set A key is (c) all three. An alternative powertrain here means propulsion other than a plain internal-combustion driveline. A full battery-electric vehicle stores electricity and drives a motor. A hydrogen fuel-cell vehicle makes electricity on board and also drives a motor. A fuel-cell-electric hybrid still uses a fuel cell, with a battery buffer; UPSC counts it as a third listed type, not as a mere footnote to **FCEV**. So I, II and III are all in. (a) under-counts; (b) is the coaching split that treats the hybrid as a variant; (d) empties the list.

Related possible facts

These can be asked in a future Prelims paper.

Battery electric vehicle (BEV)

Onboard battery and electric motor only. No ICE and no fuel cell.

Fuel-cell electric vehicle (FCEV)

Hydrogen plus oxygen in a fuel cell make electricity for the motor; water is the tailpipe product.

Hybrid electric vehicle (HEV / PHEV)

ICE plus electric motor. Counted as hybrid, not as a pure alternative powertrain in the BEV/FCEV pair.

Green Hydrogen Fuel Cell Bus

Flagged off on Kartavya Path, New Delhi, in 2023 - Indian FCEV in the news, not a third architecture.

National Green Hydrogen Mission

Launched 2023. Hydrogen for industry and mobility sits next to this PYQ.

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