

GREEN FUEL - FULL MIND MAP

Topic-wise | Hinglish | SSC / BPSC / BSSC / Railway

Topics in this chapter:

1. Green Hydrogen - Uses & Pollution Profile
2. Fuel Cells & Microbial Fuel Cells
3. Algae Biofuel & Bio-asphalt
4. Organic State & Organic Farming in India

1. Green Hydrogen - Uses & Pollution Profile

- green hydrogen ka use upayukt roop se dijaen kiye gaye antarik-burning engines (Internal-Combustion Engines) mein fuel ke roop mein kiya ja sakta hai. upakaran aur paipalain anukulata (Pipeline Compatibility) ki sharton ke saath hydrogen ko natural gas mein milakar heat ya bijali production mein use kiya ja sakta hai. hydrogen ka use fuel koshaen mein karke vahanon ko bhi chalaya ja sakta hai. [Q1]
- use-site par hydrogen bahut kam pollution wala fuel ho sakta hai, visheshakar fuel sel mein, jahan mukhya up-products water aur heat hote hain. hydrogen ke burning se kuchh nitrogen oxides ban sakte hain aur total life-cycle effect is bat par dependent karta hai ki hydrogen kaise banaya gaya hai. [Q2]
- use-site par hydrogen bahut kam pollution wala fuel ho sakta hai, visheshakar fuel sel mein, jahan mukhya up-products water aur heat hote hain. hydrogen ke burning se kuchh nitrogen oxides ban sakte hain aur total life-cycle effect is bat par dependent karta hai ki hydrogen kaise banaya gaya hai. [Q3]
- use-site par hydrogen bahut kam pollution wala fuel ho sakta hai, visheshakar fuel sel mein, jahan mukhya up-products water aur heat hote hain. hydrogen ke burning se kuchh nitrogen oxides ban sakte hain aur total life-cycle effect is bat par dependent karta hai ki hydrogen kaise banaya gaya hai. [Q4]

EXAM TRAP "green fuel" kisi ek plants se bandhi manakikrit fuel-category nahi, balki ek widespread varnanatmak term hai. karanj (Karanja/Pongamia) bio diesel ke liye many akhady tilahan kachcha mal (Non-Edible Oilseed Feedstock) hai. chid (Pine) biomass se bio-energy (Bioenergy) products banaye ja sakte hain, lekin is context mein "pharn" (Fern) koi standard aur ekamatr green-fuel kachcha mal (Green-Fuel Feedstock) nahi hai. [Q5]

2. Fuel Cells & Microbial Fuel Cells

- hydrogen fuel sel chemical energy ko vaidyut-chemical (Electrochemical) process se bijali mein badalata hai. shuddh hydrogen aur oxygen use karne par up-products ke roop mein water aur heat bante hain; isliye statement 1 sahi hai. fuel koshaen ka use stable (Stationary), parivahan aur portebal anuprayogon (Portable Applications) mein, chhote upakaranon sahit, kiya ja sakta hai; isliye statement 2 galat hai. fuel koshaen disht dhara (Direct Current - DC) paida karti hain, pratyavarti dhara (Alternating Current - AC) nahi; isliye statement 3 galat hai. [Q6]
- sukshmajivi fuel sel microbes ko bio-catalytic ke roop mein use karke bio-avakramaniy basis-substances ki chemical energy ko electricity energy mein badalate hain. inaka relation aam taur par biotic basis-substances se hota hai; anek inorganic material ko basis-substance ke roop mein use karna iski paribhashatmak feature nahi hai. inhen waste water upachar ke saath joda ja sakta hai, jahan microbe organic substance ka consumption karte hue electricity dhara paida karte hain. [Q7]

3. Algae Biofuel & Bio-asphalt

- algae ko marine vatavaran ke saath-saath land par khule talabon (Open Ponds) ya photobayoriektaron (Photobioreactors) mein bhi ugaya ja sakta hai; isliye statement 1 galat hai. algae-based bio-fuel (Algae-Based Biofuel) systems mein uchch takaniki visheshajnyata aur process control ki zarurat hoti hai; isliye statement 2 sahi hai. [Q8]
- Galat kathan: 1, 3 and 4; official UPSC-shaili ke statement mein bio-damar ko organic waste substances se banaya ja sakana likha hai; “inorganic” (Non-Organic) term basic path ki truti tha aur use thik kiya gaya hai. bio-damar mein petroliyam (Petroleum) ki jagah renewable biotic kachche mal (Feedstocks) use kiye ja sakte hain; isliye statement 1 sahi aur statement 2 galat hai. organic waste aur paudh-based substance kachcha mal (Feedstock) ho sakte hain; isliye statement 3 sahi hai. petroliyam (Petroleum) ki khapat ghatane wale aise option sadak-surface ke liye environmental labh de sakte hain; isliye statement 4 svikary hai. [Q9]

4. Organic State & Organic Farming in India

- sikkim January 2016 mein India ka pehla 100% biotic state bana. yeh change 2003 se shuru hui policy-process ka result tha, jismein kritrim urvarakon aur kitanashakon ko charanabaddh roop se hataya gaya. [Q10]
- Sikkim (India) - FAO aur international policy-sources mein sikkim ko world ka pehla 100% biotic state mana jata hai. state ne 2016 mein purnatah pramanit biotic agriculture ki taraf sankraman pura kiya. [Q11]
- statement 1 galat hai: national biotic production program (NPOP), gramin development Ministry ke bajay vanijy vibhag (Commerce), vanijy aur udyog Ministry ke tahat operated hota hai. statement 2 sahi hai: APEDA, NPOP ke sachivalay/karyanvayan (Implementation) Authority ke roop mein work karta hai. statement 3 sahi hai: sikkim 2016 mein India ka pehla purnatah biotic state bana. [Q12]