FLOW OF ENERGY - FULL MIND MAP

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Topics in this chapter:

1. Sun - Primary Source & Ecosystem Driver

- zyadatar ecosystems mein solar radiation antim primary energy source hai, jise light-sanshleshi producer capture karte hain. kuchh ecosystem, jaise gahare sea ke jalatapiy-vent community, mainly chemical synthesis par based ho sakte hain; phir bhi diye gaye options mein solar energy standard jawab hai. [Q1]
- energy flow ecosystem ki kriyaon ko chalata hai aur zyadatar ecosystems mein yeh energy antatah Sun se ati hai. producer solar energy ko capture kar chemical energy mein badalate hain, jo food shrinkhalaon ke medium se age badhti hai. [Q2]
- The energy flow in the biospheric ecosystem is unidirectional. - ecosystem mein energy ka pravah ekadishiy (ya ek disha mein) hota hai. food banane ki process ke dauran light-synthesis dwara energy Sun se plants mein enter karti hai. yeh energy phir food chain mein ek organism se dusare organism tak pahunchati hai. organisms dwara heat ke roop mein nikali gayi energy environment mein destroy ho jati hai. woh dobara plants dwara use ke liye vapas nahi ati. [Q3]

2. Ten Percent Law

- Transfer of energy as food from one trophic level to other - ek trophic level se agale trophic level tak energy ke sthanantaran ka das percent niyam Raymond Lindeman ne 1940 ke dashak ke pratham hissa mein prastut kiya tha. is niyam ke ke mutabik, organic food se ek trophic level se agale trophic level tak energy ke sthanantaran ke dauran organic substance ki energy ka sirf lagbhag das percent hi mans ke roop mein sanchit hota hai. [Q4]
- sthaliy ecosystem mein hare plants apni pattiyon par padane wali solar energy ka lagbhag 1 percent capture karte hain. isliye statement 1 sahi hai. nutrition levels ke beech energy ka sthanantaran aam taur par ausatan lagbhag 10 percent mana jata hai (ise Lindeman ka 10 percent niyam kaha jata hai). isliye statement 2 bhi sahi hai. isliye option (c) sahi jawab hai. [Q5]
- Lindeman - remand el. lindemain nutrition-gatishil avadharana aur nutrition levels ke beech energy ke lagbhag ‘das percent’ sthanantaran se jude scientific hain. 1942 mein prakashit unke nutrition-gatishil Ecology sanbandhi work ne kramik nutrition levels ke beech energy relations ko parimanit kiya. [Q6]

3. Energy Pyramid & Trophic Levels

- Always upright - energy ka piramid sadaiv sidha hota hai, kabhi bhi ulta nahi ho sakta, kyunki jab energy kisi khas trophic level se agale trophic level mein pravahit hoti hai, to har ek charan mein kuchh energy heat ke roop mein hamesha destroy ho jati hai. energy piramid ki har ek patti kisi fixed samay mein ya per ikai area per year har ek trophic level par present energy ki amount ko darshati hai. isliye option (a) sahi hai. [Q7]

- Organisms linked in food chain - trophic level food chain mein aapas mein jude organisms dwara bante hain aur energy aur nutrient tattvon ke pravah ka pratinidhitv karte hain. plants jaise producer suryaprakash (solar energy) ko chemical energy mein convert karte hain, jabki primary consumer utpadakon ko khate hain. secondary consumer primary consumers par food karte hain aur yeh kram tritiyak consumers aur usase age bhi jari rehta hai. [Q8]
- Decreases - energy sabhi upapachayi kriyaon ke liye uttaradayi basic shakti hai. producer se shirsh consumers tak energy ke pravah ko energy flow kaha jata hai, jo ekadishiy hota hai. [Q9]
- Decreases - energy sabhi upapachayi kriyaon ke liye uttaradayi basic shakti hai. producer se shirsh consumers tak energy ke pravah ko energy flow kaha jata hai, jo ekadishiy hota hai. [Q10]
- Carnivores - trophic level food chain mein kisi organism ki ahar-condition ko shows hai. producer pratham level par, shakahari agale level par aur mansahari usase unche consumer levels par ho sakte hain. [Q11]

4. Biomass Pyramids - Inverted Cases

- Pond - biomass ka piramid ek graphiy nirupan hai jo kisi ecological system mein different nutrition levels ke andar per ikai area biomass ki amount ko shows hai. ghasabhumiyon aur forests mein utpadakon se shirsh mansahariyon tak kramik levels par organisms ke biomass mein dhire-dhire kami hoti hai. isliye piramid seedhe hote hain. [Q12]
- biomass ka ulta piramid marine ecosystem mein paya ja sakta hai. sea mein biomass ka piramid aam taur par ulta hota hai kyunki machhaliyon ka biomass padapaplavakon ki comparison mein bahut zyada hota hai. isliye option (1) sahi hai. [Q13]