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Prelims PYQ, Mains model answers, and copy evaluation. Write to the desk for this paper, a doubt, or the AI waitlist.

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Q6

Each year a large amount of plant material, cellulose, is deposited on the surface of Planet Earth. What are the natural processes this cellulose undergoes before yielding carbon dioxide, water and other end products ?

UPSC Civil Services Mains 2022 · GS III · 10 marks · Environment and Conservation

Conservation, environmental pollution and degradation, environmental impact assessment.

Facts & figures for this PYQ only.

Numbers move. Confirm the latest Budget, Economic Survey or census round. This sheet is for revision, not a substitute for the model answer.

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Cellulose

β -1,4-linked glucose polymer of plant cell walls; the most abundant biopolymer on land.

Cellulase

Enzyme set (endo-, exo-glucanase, β -glucosidase) secreted mainly by fungi and bacteria.

Ruminants and termites

Animals whose gut symbionts digest cellulose; they process a large share of herbaceous and woody fibre.

Humus

Stabilised soil organic matter left after incomplete decay of litter including cellulose and lignin.

Methanogenesis

Anaerobic microbial path in wetlands and guts that yields methane from fermentation products.

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