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Q98

Which of the following are the reasons for the occurrence of multi-drug resistance in microbial pathogens in India? 1. Genetic predisposition of some people 2. Taking incorrect doses of antibiotics to cure diseases 3. Using antibiotics in livestock farming 4. Multiple chronic diseases in some people Select the correct answer using the code given below (a) 1 and 2 (b) 2 and 3 only (c) 1, 3 and 4 (d) 2, 3 and 4 Official key: B.

UPSC Civil Services Prelims 2019 · General Studies · 2 marks · Science and Technology

Science, technology, space, defence, IT - Prelims GS Paper I.

Explanation**(a)**

(a) 1 and 2. Genetic predisposition of patients is not a listed driver of microbial multi-drug resistance in this key. Incorrect antibiotic doses are a driver, but pairing them with genetics is not the key.

(b) Official key

(b) 2 and 3 only. Wrong doses and incomplete courses select resistant strains. Antibiotics in livestock farming add a large reservoir of resistance genes. Those two are the official key.

(c)

(c) 1, 3 and 4. Genetic predisposition and multiple chronic diseases in people are host facts, not the microbial-resistance reasons keyed here. Not the key.

(d)

(d) 2, 3 and 4. Multiple chronic diseases may increase antibiotic exposure, but statement 4 is not in the official pair. Not the key.

Summary

Official key is (b). Multi-drug resistance in pathogens is driven by misuse of antibiotics in humans (wrong dose, incomplete course) and by farm use that selects resistant bacteria. Host genetics and a count of chronic diseases are not the keyed reasons. Honour (b).

Related possible facts

These can be asked in a future Prelims paper.

AMR

Antimicrobial resistance; WHO global health priority

Selection pressure

Sub-therapeutic or incomplete doses favour resistant mutants

Veterinary antibiotics

Growth promotion and mass prophylaxis in livestock

One Health

Human, animal and environmental antibiotic pools

National Action Plan on AMR

India's 2017 plan

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