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Q44

Consider the following statements: 1. Genetic changes can be introduced in the cells that produce eggs or sperms of a prospective parent. 2. A person's genome can be edited before birth at the early embryonic stage. 3. Human induced pluripotent stem cells can be injected into the embryo of a pig. Which of the statements given above is/are correct? (a) 1 only (b) 2 and 3 only (c) 2 only (d) 1, 2 and 3 Official key: D.

UPSC Civil Services Prelims 2020 · General Studies · 2 marks · Current Affairs and GK

Current events, government schemes, miscellaneous GK - Prelims GS Paper I.

Explanation**(a)**

1 only. Embryonic editing and pig-embryo iPSC chimeras were also already shown in labs.

(b)

2 and 3 only. Germ-line (egg/sperm) editing is also possible in principle/practice as keyed.

(c)

2 only. Under-counts.

(d) Official key

All three. Germ-line edits, early-embryo genome editing, and human iPSCs into a pig embryo - all reported as technically done.

Summary

Official key is (d) 1, 2 and 3. By 2020, labs could edit prospective parents' germ cells, edit early human embryos, and inject human iPSCs into pig embryos. All three statements hold as capability claims.

Related possible facts

These can be asked in a future Prelims paper.

He Jiankui

The illicit 2018 embryo-edit scandal.

Chimera research

Human-pig embryo experiments for organs.

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