CBSE CLASS X

Science (086)

QUESTION PAPER

AI-generated question paper

Code: 0RI9VM **Questions: 34** **Maximum Marks: 59** **Generated: 2026-06-25 17:33**

SELECTIONS USED

Subject	Science
Lessons	7 How do Organisms Reproduce?
Level of understanding	Initial understanding
Question selection	Curated chapter coverage (~3 questions per section)
Model	claude-sonnet-4-6

Composition — Difficulty: 21 straightforward · 11 medium · 2 deep | Types: 14 Very short · 14 Short · 5 MCQ · 1 Long

Q1. straightforward · initial-understanding · § 7.1 DO ORGANISMS CREATE EXACT COPIES OF THEMSELVES? **[1]**

Why does a change in the DNA of a cell lead to a change in the body design of an organism?

◆ **How do Organisms Reproduce?**

Q2. medium · initial-understanding · § 7.1 DO ORGANISMS CREATE EXACT COPIES OF THEMSELVES? **[2]**

When variations arise in a new DNA copy during cell division, what are the two possible outcomes for the organism carrying that variation?

◆ **How do Organisms Reproduce?**

Q3. deep · initial-understanding · § 7.1 DO ORGANISMS CREATE EXACT COPIES OF THEMSELVES? **[3]**

Variation during reproduction is described as beneficial to a species but not necessarily to an individual organism. Explain this distinction with a suitable example.

◆ **How do Organisms Reproduce?**

Q4. medium · initial-understanding · § 7.2 MODES OF REPRODUCTION USED BY SINGLE ORGANISMS **[3]**

Name the mode of asexual reproduction used by each of the following organisms and briefly describe how it works: (i) Yeast (ii) Amoeba (iii) Plasmodium (iv) Leishmania.

◆ **How do Organisms Reproduce?**

Q5. straightforward · initial-understanding · § 7.2.1 Fission **[1]**

Binary fission in Leishmania always occurs along a specific orientation, whereas in Amoeba it can occur in any plane. Give a reason for this difference.

◆ **How do Organisms Reproduce?**

Q6. straightforward · initial-understanding · § 7.2.2 Fragmentation **[1]**

What is fragmentation as a mode of reproduction? Name one organism that reproduces by this method.

◆ **How do Organisms Reproduce?**

Q7. medium | initial-understanding | § 7.2.2 Fragmentation **[2]**

Why can fragmentation work as a method of reproduction in Spirogyra but not in more complex multicellular organisms like humans?

◆ How do Organisms Reproduce?

Q8. straightforward | initial-understanding | § 7.2.3 Regeneration **[1]**

Organisms like Hydra and Planaria can regrow into complete individuals from cut pieces. What is this ability called, and what type of cells make it possible?

◆ How do Organisms Reproduce?

Q9. straightforward | initial-understanding | § 7.2.4 Budding **[1]**

In Hydra, where does a bud originate, and what happens to it once it is fully mature?

◆ How do Organisms Reproduce?

Q10. straightforward | initial-understanding | § 7.2.5 Vegetative Propagation **[1]**

Which of the following is NOT a feature of vegetative propagation in plants?
(A) Offspring can bear flowers and fruits earlier than seed-grown plants.
(B) It can propagate plants that have lost the ability to produce seeds.
(C) Offspring show greater genetic diversity than the parent plant.
(D) It does not require the involvement of reproductive organs such as flowers.

A Plants can bear flowers and fruits earlier than seed-grown plants.
B It allows propagation of plants that have lost the ability to produce seeds.
C It introduces greater genetic variation than sexual reproduction.
D All plants produced are genetically similar to the parent plant.

◆ How do Organisms Reproduce?

Q11. straightforward | initial-understanding | § 7.2.5 Vegetative Propagation **[1]**

In Bryophyllum, new plants develop from the margins of its leaves. Which part of the plant does this illustrate as being capable of vegetative propagation?

◆ How do Organisms Reproduce?

Q12. straightforward | initial-understanding | § 7.2.6 Spore Formation **[1]**

What is the function of the thick walls surrounding spores in organisms like Rhizopus?

◆ How do Organisms Reproduce?

Q13. medium | initial-understanding | § 7.3 SEXUAL REPRODUCTION **[2]**

Why must germ-cells contain only half the number of chromosomes found in normal body cells?

◆ How do Organisms Reproduce?

Q14. medium | initial-understanding | § 7.3.1 Why the Sexual Mode of Reproduction? **[3]**

Why does the sexual mode of reproduction generate more variation in a population compared to asexual reproduction?

◆ How do Organisms Reproduce?

Q15. medium | initial-understanding | § 7.3.1 Why the Sexual Mode of Reproduction? **[3]**

In sexual reproduction, each new generation would have twice the amount of DNA as the previous generation — unless a special process takes place. What is that process, and how does it solve this problem?

◆ How do Organisms Reproduce?

Q16. straightforward | initial-understanding | § 7.3.1 Why the Sexual Mode of Reproduction? **[1]**

Which of the following best explains why sexual reproduction is advantageous for the long-term survival of a species?
(A) It requires less energy than asexual reproduction.
(B) It produces offspring identical to the parent, ensuring stability.
(C) It creates new combinations of genetic variants, increasing the chances that some individuals survive environmental changes.
(D) It allows a single individual to produce many offspring very quickly.

A It requires less energy than asexual reproduction.
B It produces offspring identical to the parent, ensuring stability.
C It creates new combinations of variants, increasing the chances that some individuals survive environmental changes.
D It allows a single individual to produce many offspring quickly.

◆ **How do Organisms Reproduce?**

Q17. straightforward | initial-understanding | § 7.3.1 Why the Sexual Mode of Reproduction? **[1]**

How does the structure of a male gamete (sperm) differ from that of a female gamete (egg/ovum)?

◆ **How do Organisms Reproduce?**

Q18. straightforward | initial-understanding | § 7.3.2 Sexual Reproduction in Flowering Plants **[1]**

Which part of the pistil receives the pollen grain during pollination?

◆ **How do Organisms Reproduce?**

Q19. straightforward | initial-understanding | § 7.3.2 Sexual Reproduction in Flowering Plants **[2]**

What is the difference between self-pollination and cross-pollination?

◆ **How do Organisms Reproduce?**

Q20. medium | initial-understanding | § 7.3.2 Sexual Reproduction in Flowering Plants **[3]**

After pollination occurs in a flower, what series of changes eventually leads to the formation of a seed and a fruit? Describe the steps in order.

◆ **How do Organisms Reproduce?**

Q21. straightforward | initial-understanding | § 7.3.3 Reproduction in Human Beings **[1]**

Why are the testes located outside the abdominal cavity in the scrotum?

◆ **How do Organisms Reproduce?**

Q22. straightforward | initial-understanding | § 7.3.3 Reproduction in Human Beings **[1]**

Which of the following correctly describes the path a sperm travels after being produced, until it exits the male body?
(A) Testes → Urethra → Vas deferens → Penis
(B) Testes → Vas deferens → Urethra → Penis
(C) Testes → Prostate gland → Vas deferens → Urethra
(D) Testes → Seminal vesicles → Vas deferens → Penis

A Testes → Urethra → Vas deferens → Penis
B Testes → Vas deferens → Urethra → Penis
C Testes → Prostate gland → Vas deferens → Urethra
D Testes → Seminal vesicles → Vas deferens → Penis

◆ **How do Organisms Reproduce?**

Q23. straightforward | initial-understanding | § 7.3.3 Reproduction in Human Beings **[2]**

Where in the female reproductive system does fertilisation normally take place? What is the immediate outcome after the egg is fertilised at that site?

◆ **How do Organisms Reproduce?**

Q24. medium | initial-understanding | § 7.3.3 Reproduction in Human Beings **[3]**

What is the role of the placenta in the development of an embryo inside the uterus?

◆ **How do Organisms Reproduce?**

Q25. medium | initial-understanding | § 7.3.3 Reproduction in Human Beings **[2]**

Why does menstruation occur every month?

◆ **How do Organisms Reproduce?**

Q26. medium | initial-understanding | § 7.3.3 Reproduction in Human Beings **[1]**

Which of the following contraceptive methods works by preventing the release of eggs?
(A) Copper-T
(B) Condom
(C) Oral hormonal pills
(D) Surgical blocking of the fallopian tube

A Copper-T
B Condom
C Oral hormonal pills
D Surgical blocking of the fallopian tube

◆ **How do Organisms Reproduce?**

Q27. deep | initial-understanding | § 7.3.3 Reproduction in Human Beings **[5]**

Puberty marks the beginning of sexual maturation in human beings. Describe two physical changes that occur specifically in boys and two that occur specifically in girls during puberty. Why is this stage considered important for reproduction?

◆ **How do Organisms Reproduce?**

Q28. straightforward | initial-understanding | § 7.3.3 (a) Male Reproductive System **[1]**

Why are the testes located outside the abdominal cavity in the scrotum rather than inside the body?

◆ **How do Organisms Reproduce?**

Q29. straightforward | initial-understanding | § 7.3.3 (b) Female Reproductive System **[2]**

Name the structures, in order, that an egg passes through after it is released from the ovary until it reaches the site of fertilisation in the human female reproductive system.

◆ **How do Organisms Reproduce?**

Q30. medium | initial-understanding | § 7.3.3 (b) Female Reproductive System **[3]**

What is the role of the placenta in the development of an embryo inside the mother's body?

◆ **How do Organisms Reproduce?**

Q31. straightforward | initial-understanding | § 7.3.3 (c) What happens when the Egg is not Fertilised? **[1]**

What is shed from the uterus during menstruation, and why does it occur?

◆ **How do Organisms Reproduce?**

Q32. straightforward | initial-understanding | § 7.3.3 (d) Reproductive Health **[1]**

How does a condom help in preventing sexually transmitted infections?

◆ **How do Organisms Reproduce?**

Q33. straightforward | initial-understanding | § 7.3.3 (d) Reproductive Health **[1]**

Which of the following contraceptive methods works by preventing the release of eggs through hormonal changes?
(A) Copper-T
(B) Condom
(C) Oral contraceptive pills
(D) Surgical blocking of the fallopian tube

A Copper-T
B Condom
C Oral contraceptive pills
D Surgical blocking of the fallopian tube

◆ **How do Organisms Reproduce?**

Q34. straightforward | initial-understanding | § 7.3.3 (d) Reproductive Health **[1]**

If the vas deferens in a male is surgically blocked, why will fertilisation not occur?

◆ **How do Organisms Reproduce?**

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