**SECTION 1 MULTIPLE CHOICE ANSWERS**

Please circle the correct answer for each of the multiple choice questions below.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 1 | a | b | c | xxx |
| 2 | a | xxx | c | d |
| 3 | a | xxx | c | d |
| 4 | xxx | b | c | d |
| 5 | xxx | b | c | d |
| 6 | a | b | c | xxx |
| 7 | xxx | b | c | d |
| 8 | a | b | xxx | d |
| 9 | a | b | xxx | d |
| 10 | a | b | xxx | d |
| 11 | xxx | b | c | d |
| 12 | a | b | xxx | d |

**SECTION 2 SHORT ANSWERS**

13. Complete the following table by describing 1 type of **asexual reproduction** that is **not plant related** and an **example for each:** (6 marks)

|  |  |  |
| --- | --- | --- |
| **Type of asexual reproduction** | **Explanation of how it happens** | **Example of an organism that uses this type** |
| **Budding** | 1 mark valid reason | 1 mark valid example |
| **Fragmentation** | 1 mark valid reason | 1 mark valid example |
| **Binary Fission** | 1 mark valid reason | 1 mark valid example |

14. Complete the following table using the choices in each column. (8 marks)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Fertilisation  (external/internal) | Development  (eggs/ live young) | Number of offspring (few/many) | Parental care  (none/some/ extensive) |
| Fish | External (1 mark) | Eggs (1 mark) | Many (1 mark) | None (1 mark) |
| Mammals | Internal (1 mark) | Live young (1 mark) | Few (1 mark) | Some/Extensive (1 mark) |

15. Flowering plants may either be self-fertilised or cross-fertilised. (3 Marks)

A) **Describe** one feature of plants that ensures cross-fertilisation will occur.

B) Explain how this feature allows this.

C) **Clarify** the advantage of cross-fertilisation.

1 mark feature

1 mark how this feature allows cross pollination

1 mark the advantage this feature has for cross pollination

16. **Explain** why organisms that undergo external fertilisation have so many babies compared with those that undergo internal fertilisation. (2 marks)

1 mark reason for so many offspring

1 mark reason internal fertilisation is fewer offspring

17. **Discuss** how sexual reproduction restores diploid number of chromosomes from haploid number. (2 marks)

1 mark haploid number originating from egg and sperm

1 mark sexual reproduction fertilisation diploid number from two joining

Diagram

Description automatically generated18. **Label** the diagram of the dissected flower below to identify both the male and female reproductive parts. (4 marks)

Anther (0.5 mark)

Filament (0.5 mark)

Petal (0.5 mark)

Sepal (0.5 mark)

Stigma (0.5 mark)

Style (0.5 mark)

Ovary (0.5 mark)

Ovule (0.5 mark)

19. **Compare** and **contrast** meiosis and mitosis in the venn below, **identifying** two similarities and three differences between the two processes. (8 marks)

2 similarities between the two (2 marks)

3 differences in meiosis (3 marks)

3 differences in mitosis (3 marks)

**SECTION 3 EXTENDED ANSWER**

20. What are the three ways that mammals give birth? List and describe each and provide an example species for each. Explain the benefits of one of these types of birth in the survival of the offspring (10 marks)

Placental (1 mark): Where a placenta forms the structure that allows transfer of nutrients and wastes to and from the offspring and parent (1 mark). Example: humans, cats, dogs, cows, sheep etc (1 mark)

Monotremes (1 mark): lays a soft shell egg, that they nest with (1 mark). Example: echidnas, platypus (1 mark)

Marsupials (1 mark): gives birth to underdeveloped young which finish developing in a pouch (1 mark). Example: kangaroo, possum etc (1 mark)

**END OF TEST**