

CBSE Class 10 Science
NCERT Exemplar Solutions
Chapter 8
How Do Organisms Reproduce?

Multiple Choice Questions (MCQs)

1. In the list of organisms given below, those that reproduce by the asexual method are

- (i) banana
 - (ii) dog
 - (iii) yeast
 - (iv) Amoeba
- (a) (ii) and (iv)
- (b) (i), (iii) and (iv)
- (c) (i) and (iv)
- (d) (ii), (iii) and (iv)

Ans. (b) (i), (iii) and (iv)

Explanation: Dog never reproduces asexually. Yeast and amoeba always reproduce asexually. Cultivated varieties of banana always reproduce asexually.

2. In a flower, the parts that produce male and female gametes (germ cells) are

- (a) stamen and anther
- (b) filament and stigma
- (c) anther and ovary
- (d) stamen and style

Ans. (c) Anther and ovary

3. Which of the following is the correct sequence of events of sexual reproduction in a flower?

- (a) pollination, fertilisation, seedling, embryo
- (b) seedling, embryo, fertilisation, pollination
- (c) pollination, fertilisation, embryo, seedling
- (d) embryo, seedling, pollination, fertilization

Ans. (c) Pollination, fertilisation, embryo, seedling

Explanation: Fertilisation cannot happen without pollination. Embryo is formed after fertilization and seedling comes out of embryo.

4. Offspring formed by asexual method of reproduction have greater similarity among themselves because

- (i) asexual reproduction involves only one parent**
- (ii) asexual reproduction does not involve gametes**
- (iii) asexual reproduction occurs before sexual reproduction**
- (iv) asexual reproduction occurs after sexual reproduction**

- (a) (i) and (ii)
- (b) (i) and (iii)
- (c) (ii) and (iv)
- (d) (iii) and (iv)

Ans. (a) (i) and (ii)

Explanation: In asexual reproduction, the single parent divides into offsprings thus they are very similar.

5. Characters transmitted from parents to offspring are present in

- (a) cytoplasm
- (b) ribosome
- (c) golgi bodies
- (d) genes

Ans. (d) Genes

Explanation: Genes are responsible for transmission of characters from one generation to the next generation.

6. Characters that are transmitted from parents to offspring during reproduction show

- (a) only similarities with parents
- (b) only variations with parents
- (c) both similarities and variations with parents
- (d) neither similarities nor variations

Ans. (c) Both similarities and variations with parents

Explanation: A child shows certain similarities and certain variations in characters from parents. This shows characters in a child can be both similar as well as different than parents.

7. A feature of reproduction that is common to *Amoeba*, *Spirogyra* and Yeast is that

- (a) they reproduce asexually
- (b) they are all unicellular
- (c) they reproduce only sexually
- (d) they are all multicellular

Ans. (a) They reproduce asexually

Explanation: Number of cells in an organism does not decide if the organism would reproduce asexually or sexually. Hence options 'b' and 'd' are incorrect. These organisms never reproduce sexually and hence option 'c' is incorrect.

8. In Spirogyra, asexual reproduction takes place by

- (a) breaking up of filaments into smaller bits
- (b) division of a cell into two cells
- (c) division of a cell into many cells
- (d) formation of young cells from older cells

Ans. (a) breaking up of filaments into smaller bits

Explanation: Spirogyra shows reproduction by fragmentation.

9. The ability of a cell to divide into several cells during reproduction in *Plasmodium* is called

- (a) budding
- (b) reduction division
- (c) binary fission
- (d) multiple fission

Ans. (d) Multiple fission

10. The correct sequence of reproductive stages seen in flowering plants is

- (a) gametes, zygote, embryo, seedling
- (b) zygote, gametes, embryo, seedling
- (c) seedling, embryo, zygote, gametes

(d) gametes, embryo, zygote, seedling

Ans. (a) gametes, zygote, embryo, seedling.

Explanation: Gametes fuse during fertilization to form zygote. Zygote develops into embryo. Embryo produces seedling after germination of seed.

11. The number of chromosomes in parents and offsprings of a particular species remains constant due to

(a) doubling of chromosomes after zygote formation

(b) halving of chromosomes during gamete formation

(c) doubling of chromosomes after gamete formation

(d) halving of chromosomes after gamete formation

Ans. (b) halving of chromosomes during gamete formation

Explanation: During gamete formation, number of chromosomes becomes half. Due to this, number of chromosomes in zygote becomes same as in somatic cell of the organism. This ensures constant number of chromosomes in a particular species.

12. In Rhizopus, tubular thread-like structures bearing sporangia at their tips are called

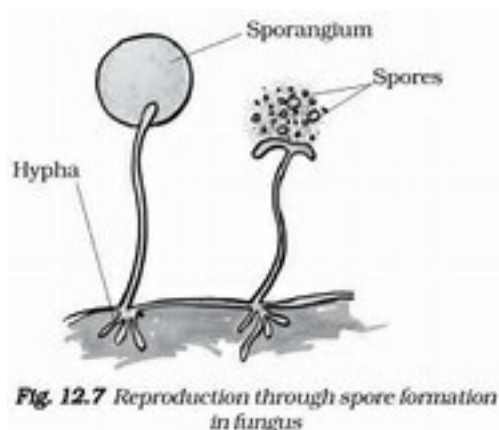
(a) filaments

(b) hyphae

(c) rhizoids

(d) roots

Ans. (b) Hyphae



13. Vegetative propagation refers to formation of new plants from

- (a) stem, roots and flowers
- (b) stem, roots and leaves
- (c) stem, flowers and fruits
- (d) stem, leaves and flowers

Ans. (b) Stem, roots and leaves

Explanation: Vegetative propagation happens from vegetative parts of a plant. Stem root and leaves are vegetative parts.

14. Factors responsible for the rapid spread of bread mould on slices of bread are

- (i) large number of spores
- (ii) availability of moisture and nutrients in bread
- (iii) presence of tubular branched hyphae
- (iv) formation of round shaped sporangia

- (a) (i) and (iii)
- (b) (ii) and iv)
- (c) (i) and (ii)
- (d) (iii) and (iv)

Ans. (c) (i) and (ii)

Explanation: Large number of spores ensures survival of some spores even in adverse conditions. Moisture and nutrients in bread provide conducive environment for spores to produce new bread mould.

15. Length of pollen tube depends on the distance between

- (a) pollen grain and upper surface of stigma
- (b) pollen grain on upper surface of stigma and ovule
- (c) pollen grain in anther and upper surface of stigma
- (d) upper surface of stigma and lower part of style

Ans. (d) upper surface of stigma and lower part of style

Explanation: To ensure pollination. Pollens should be able to reach the upper surface of stigma. This can be ensured by suitable length of pollen tube.

16. Which of the following statements are true for flowers?

- (i) Flowers are always bisexual**
- (ii) They are the sexual reproductive organs**
- (iii) They are produced in all groups of plants**
- (iv) After fertilisation they give rise to fruits**

- (a) (i) and (iv)
- (b) (ii) and (iii)
- (c) (i) and (iii)
- (d) (ii) and (iv)

Ans. (d) (ii) and (iv)

Explanation: Some flowers are unisexual and hence statement (i) is incorrect. Flowers are

produced by angiosperms only and hence statement (iii) is incorrect.

17. Which among the following statements are true for unisexual flowers?

- (i) They possess both stamen and pistil**
- (ii) They possess either stamen or pistil**
- (iii) They exhibit cross pollination**
- (iv) Unisexual flowers possessing only stamens cannot produce fruits**

- (a) (i) and (iv)
- (b) (ii), (iii) and (iv)
- (c) (iii) and (iv)
- (d) (i), (iii) and (iv)

Ans. (b) (ii), (iii) and (iv)

Explanation: Since a unisexual flower has either stamen or pistil, hence cross pollination is necessary in them. Fruit is a mature ovary and hence a flower possessing only stamens cannot produce fruit.

18. Which among the following statements are true for sexual reproduction in flowering plants?

- (i) It requires two types of gametes**
- (ii) Fertilisation is a compulsory event**
- (iii) It always results in formation of zygote**
- (iv) Offspring formed are clones**

- (a) (i) and (iv)
- (b) (i), (ii) and (iv)
- (c) (i), (ii) and (iii)
- (d) (i), (ii) and (iv)

Ans. (c) (i), (ii) and (iii)

Explanation: Offspring produced after sexual reproduction are never clones of their parents. Hence, statement (iv) is incorrect.

19. In Figure 8.1, the parts A, B and C are sequentially

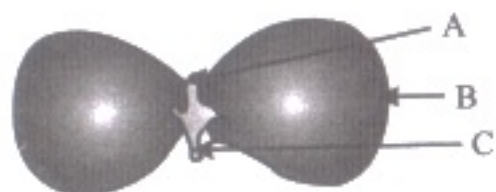
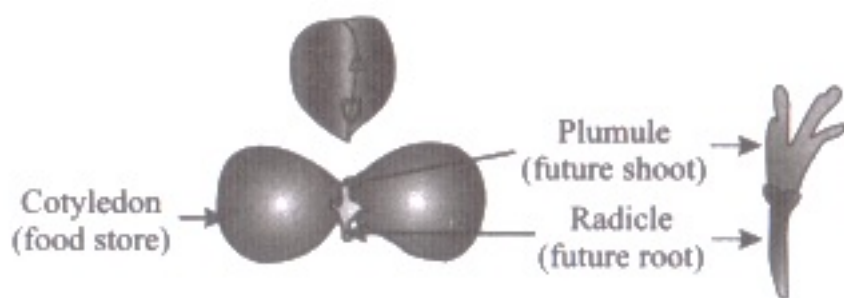


Fig. 8.1

- (a) cotyledon, plumule and radicle
- (b) plumule, radicle and cotyledon
- (c) plumule, cotyledon and radicle
- (d) radicle, cotyledon and plumula

Ans. (c) Plumule, cotyledon and radicle

Explanation:



20. Offspring formed as a result of sexual reproduction exhibit more variations because

- (a) sexual reproduction is a lengthy process
- (b) genetic material comes from two parents of the same species
- (c) genetic material comes from two parents of different species

(d) genetic material comes from many parents

Ans. (b) genetic material comes from two parents of the same species

Explanation: In sexual reproduction, genetic materials are contributed by two parents. Members of two different species cannot interbreed and hence option 'c' is incorrect.

21. Reproduction is essential for living organisms in order to

- (a) keep the individual organism alive
- (b) fulfill their energy requirement
- (c) maintain growth
- (d) continue the species generation after generation

Ans. (d) continue the species generation after generation

Explanation: Other life processes are essential for keeping the organism alive. Reproduction is essential to continue the lineage of an organism.

22. During adolescence, several changes occur in the human body. Mark one change associated with sexual maturation in boys

- (a) loss of milk teeth
- (b) increase in height
- (c) cracking of voice
- (d) weight gain

Ans. (c) cracking of voice

Explanation: Other changes; as shown in options happen in girls also.

23. In human females, an event that reflects onset of reproductive phase is

- (a) growth of body
- (b) changes in hair pattern
- (c) change in voice
- (d) menstruation

Ans. (d) Menstruation

Explanation: Other changes; as shown in options happen in boys also.

24. In human males, the testes lie in the scrotum, because it helps in the

- (a) process of mating
- (b) formation of sperm
- (c) easy transfer of gametes
- (d) all the above

Ans. (b) Formation of sperm

Explanation: The fact that testes lie in the scrotum ensures that the temperature of testes is below body temperature. It ensures optimum production of sperms.

25. Which among the following is not the function of testes at puberty?

- (i) formation of germ cells
- (ii) secretion of testosterone
- (iii) development of placenta
- (iv) secretion of estrogen

- (a) (i) and (ii)
- (b) (ii) and (iii)
- (c) (iii) and (iv)

(d) (i) and (iv)

Ans. (c) (iii) and (iv)

Explanation: These events take place in females and not in males. Testes are present in males.

26. The correct sequence of organs in the male reproductive system for transport of sperms is

(a) testis → vasdeferens → urethra

(b) testis → ureter → urethra

(c) testis → urethra → ureter

(d) testis → vasdeferens → ureter

Ans. (a) testis → vasdeferens → urethra

Explanation: Ureter is connected to kidneys only.

27. Which among the following diseases is not sexually transmitted?

(a) Syphilis

(b) Hepatitis

(c) HIV - AIDS

(d) Gonorrhoea

Ans. (b) Hepatitis

Explanation: It is a water-borne disease.