

EXERCISE QUESTIONS

CHAPTER 1 REPRODUCTION IN ORGANISMS

1. Why is reproduction essential for organisms?

Ans- Reproduction refers to the process of production of offsprings by living organisms. The offsprings produced are similar to their parents. These offsprings grow and become reproductively mature to leave their progenies. Therefore, this process repeats itself and a continuity of species is maintained generation after generation. If reproduction would not have been there, species would not be able to leave their progenies and sooner or later they might extinct. Thus, reproduction is essential for living organisms.

2. Which is a better mode of reproduction: sexual or asexual? Why?

Ans- Sexual mode of reproduction is better because it is biparental reproduction and introduces variation among offsprings and their parents (in a population) due to crossing over and recombination during gamete formation by meiosis.

3. Why is the offspring formed by asexual reproduction referred to as clone?

Ans- The offspring formed by asexual reproduction are referred to as clones because it involves only a single parent. Furthermore, there is no recombination of genes and the offspring produced are genetically identical.

4. Offspring formed due to sexual reproduction have better chances of survival. Why? Is this statement always true?

Ans- Sexual reproduction involves fusion of male and female gametes. In the process of formation of zygote there are exchange of genes and traits between gametes. In the process of crossing- over and segregation of chromosomes, there are much more chances of elimination of unfavorable traits from offspring, as a result the offspring will not be identical to its parents and will have a better chance of survival. No if the mother is suffering from any major disease like aids, then the offspring will **not survive**.

5. How does the progeny formed from asexual reproduction differ from those formed by sexual reproduction?

Ans- In asexual reproduction, offsprings are produced by a single parent without the involvement of gamete formation and fusion. Thus offsprings resemble the parent genetically

and morphologically. In sexual reproduction, fusion of gametes occur and fertilization and meiosis are essential events. Here, offsprings differ from parents due to appearance of variations.

6. Distinguish between asexual and sexual reproduction. Why is vegetative reproduction also considered as a type of asexual reproduction?

Ans-

Sexual reproduction

1. It involves the fusion of the male and female gamete.

2. It requires two (usually) different individuals.

3. The individuals produced are not identical to their parents and show variations from each other and also, from their parents.

4. Most animals reproduce sexually. Both sexual and asexual modes of reproduction are found in plants.

5. It is a slow process.

Asexual reproduction

It does not involves the fusion of the male and the female gamete

It requires only one individual.

The individuals produced are identical to the parent and are hence, called clones.

Asexual modes of reproduction are common in organisms having simple organizations such as algae and fungi.

It is a fast process.

Vegetative propagation is a process in which new plants are obtained without the production of seeds or spores. It involves the propagation of plants through certain vegetative parts such as the rhizome, sucker, tuber, bulb, etc. It does not involve the fusion of the male and the female gamete and requires only one parent.