

CBSE Class 12 Biology
Important Questions
Chapter 1
Reproduction in Organisms

1 Marks Questions

1. Offsprings produced by asexual reproduction are referred to as clones. Why?

Ans. Because offsprings produced by Asexual reproduction is morphologically and genetically identical to parent.

2. Name the most invasive aquatic plant weed which is called as Terror of Bengal.

Ans. Water hyacinth (Eicchornia)

3. How does Zygote usually differ from Zoospore in terms of ploidy?

Ans. Zygote diploid, zoospore haploid.

4. Mention the main difference between the offspring produced by asexual reproduction and progeny produced by sexual reproduction.

Ans. Offspring produced by asexual reproduction are genetically similar while progeny produced by sexual reproduction exhibit genetic variation.

5. Which characteristic property of Bryophyllum is exploited by gardeners and farmers?

Ans. Adventitious bud arising from margin of the leaf.

6. What represents the life span of an organism?

Ans. The period from the birth to the natural death of an organism represents its life span.

7. Which individuals can be termed as clones?

Ans. The individuals who are morphologically and genetically identical are called clones.

8. How do the following organisms reproduce: Paramecium and Penicillium?

Ans. a) Paramecium reproduces by the process of binary fission.

b) Penicillium reproduces with the help of asexual structures called conidia.

9. State the function of a vegetative propagule.

Ans. The vegetative propagules are the asexual vegetative structures of the plant that are capable of giving rise to a new plant.

10. How will you grow a banana and a ginger plant?

Ans. The rhizomes of a banana and a ginger are used to propagate new plantlets.

2 Marks Questions

1. Higher organism have resorted to sexual reproduction inspite of its complexity. Why?

Ans. Because of variations, gene pool, Vigour and Vitality and Parental care.

2. Tapeworms possess both male and female reproductive organs. What is the name given to such organism? Give two more examples of such organisms.

Ans. Hermaphrodite; Examples : Earthworm, Leech.

3. Study the relationship between first two words and suggest a suitable word for fourth place.

(a) Male flower : Stamens :: Female Flower :

(b) Birds : oviparous :: Primates :

(c) Chlamydomonas : Zoospores :: Penicilium :

(d) Ginger : Rhizome :: Agave :

Ans. (a) Carpel (b) Viviparous

(c) Conidia (d) Bulbil

4. Bryophytes and Pteridophytes produce a large number of male gametes but relatively very few female gametes. Why?

Ans. Because male gamete need medium (water) to reach egg/female gamete. A large number of the male gametes fail to reach the female gamete.

5. Enlist the significance of reproduction.

Ans. Significance of reproduction includes:

- Propagation of species.
 - Sustenance of life on this planet.
 - Variation introduced during reproduction plays a role in evolution of new species.
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6. Why do hilly areas of Kerela, Karnataka and Tamil Nadu transform into blue stretches that attracts many tourists?

Ans. *Strobilanthus kunthiana* which flowers only once in every 12 years flowered in 2006 that resulted into transformation of the hilly tracks of Kerela, Karnataka and Tamil Nadu into blue stretches.

7. Define 'oestrus' and 'menstrual' cycles.

Ans. Non- Primates like cows, sheep etc. show certain cyclic changes during reproduction called oestrus cycle while Primates like apes, humans the cycle is referred to as menstrual cycle.

8.What regulates the reproduction processes and the associated behavioural expressions in organisms?

Ans. Interaction between hormones and certain environmental factors regulate the reproductive processes and the associated behavioural expressions of organisms.

9. Mention the different stages of sexual reproduction.

Ans. The different stages in sexual reproduction include:

- Pre- fertilization events.
- Fertilization.
- Post – fertilization events.

3 Marks Questions

1. Mention the site of zygote formation in the ovule of a flowering plant. What happens to sepals, petals and stamens after fertilisation? State the fate of zygote, ovule and ovary in these plants.

Ans. Embryo sac Sepals, Petals and Stamens dry and fall off. Zygote develops into embryo. Ovule develops into seed and ovary into fruit.

2. Distinguish between gametogenesis and embryogenesis.

Ans.

Gametogenesis	Embryogenesis
1. Formation of gametes 2. Produces haploid gametes 3. Cell division is meiotic	1. Formation of embryo 2. Embryo is diploid 3. Cell division is mitotic.

3. Fill the blank spaces a, b, c, and d given in the following table.

Ans.

Organism	Organ	Gamete
a	Testes	Spermatozoa
Human female	b	Ovum
Plant (Angiosperm)	c	Pollen grains
Plant (pteridophytes)	antheridium	d

a = Human male b = ovary

c = Anther d = Antherozoid

4. What are heterogametes? What do we call these gametes individually?

Ans. Most of the sexually reproducing organisms produce two morphologically distinct gametes called heterogametes.

The male gamete is called antherozoid or sperm and the female gamete is called egg or ovum.

5. Why is syngamy a major event in sexual reproduction?

Ans. The fusion of the male gamete with the female gamete is called syngamy or fertilization and plays an important role in exchange of genetic material to introduce variation and results in the formation of diploid zygote.

6.What happens during embryogenesis?

Ans. Embryogenesis is the development of the embryo. The zygote undergoes mitotic cell division to increase the number of cells. It is followed by cell differentiation where the cells undergo certain modifications to form the specialized tissues and organs to form the organism.

7.Give any three differences between asexual and sexual reproduction.

Ans.

ASEXUAL REPRODUCTION	SEXUAL REPRODUCTION
1. There is involvement of only one individual.	1. Two sexually distinct individuals are involved.
2. There is no formation of gamete.	2. There is formation of gametes.
3. Syngamy and zygote formation is absent.	3. Syngamy and zygote formation take place.

8.Enlist the changes that occur post- fertilization in plants.

Ans. The various post- fertilization changes as observed in plants are

- The sepals, petals and stamens wither away.
- The pistil remains attached to the plant.
- The zygote develops into embryo, ovary develops into fruit and the ovules develop into seeds.

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

(b) Which is better mode of reproduction : Sexual or Asexual? Why?

Ans. (a)

Asexual Reproduction	Sexual Reproduction
(i) Uniparental (ii) Gametes are not involved (iii) Only mitotic division takes place (iv) Offspring genetically similar to parent	(i) Biparental (ii) Gametes are involved (iii) Meiosis at the time of gamete formation and mitosis after fertilisation (iv) Offspring different from parent.

Vegetative propagation takes place when new individuals arise from vegetative part of parent and have characters similar to that of parent plant.

(b) Sexual reproduction introduces variations in offsprings and has evolutionary significance. It helps offsprings to adjust according to the changes in environment. It produces better offsprings due to

Character combination.