

Board – ICSE

Class – 8

Topic – REPRODUCTION IN PLANTS

**1. Multiple choice questions: Tick the correct choice.**

1. The common method of reproduction in bacteria is  
(a) budding                      (b) fragmentation  
(c) binary fission              (d) all the above

**Ans.** (c) binary fission

2. Budding is commonly seen in  
(a) yeast                          (b) grasses  
(c) Amoeba                      (d) Spirogyra

**Ans.** (a) yeast

3. Reproduction or propagation by stem is common in  
(a) rose                            (b) potato  
(c) sweet potato              (d) Bryophyllum

**Ans.** (b) potato

4. Unisexual flowers are found in  
(a) mulberry                    (b) mustard  
(c) pea                            (d) sunflower

**Ans.** (a) mulberry

5. Spirogyra can reproduce asexually by  
(a) fragmentation              (b) fusion of gametangia  
(c) fission                        (d) budding

**Ans.** (a) fragmentation

6. The male reproductive part of a flower is called  
(a) calyx                         (b) corolla  
(c) stamens                      (d) inflorescence

**Ans.** (c) stamens

7. The transfer of pollen grains from anther to stigma of a pistil is called  
(a) fertilization              (b) pollination                      (c) germination                      (d) grafting

**Ans.** (b) pollination

8. Salvia is an example of  
(a) insect-pollinated flower                                      (b) wind-pollinated flower  
(c) water-pollinated flower                                      (d) self-pollinated flower

**Ans.** (a) insect-pollinated flower

9. Bryophyllum reproduces vegetatively by means of

- (a) stolon (b) bulbil  
(c) adventitious buds (d) rhizome

**Ans.** (c) adventitious buds

10. When condition is unfavourable, amoeba reproduces by

- (a) binary fission (b) budding  
(c) encystment (d) fragmentation

**Ans.** (c) encystment

## 2. Fill in the blanks by selecting suitable words:

(unisexual, fertilization, fruit, stamen, anther, bisexual, pollination, seed, ovary)

1. A flower that bears both the male and the female parts is known as \_\_\_\_\_ flower.
2. A flower bearing only male or female parts is known as \_\_\_\_\_ flower.
3. Transfer of pollen grains from the anther to the stigma is known as \_\_\_\_\_
4. Fusion of male cell with the female cell is called \_\_\_\_\_.
5. The ovule develops into a \_\_\_\_\_.

**Ans.** 1. bisexual 2. unisexual 3. pollination 4. fertilization  
5. seed.

## 3. Which of the following statements are true (T) and which ones are false (F)?

**Mark T or F:**

1. Asexual reproduction is more common than the sexual reproduction.
2. Producing life is called respiration.
3. Bacteria, yeast and amoeba reproduce by sexual reproduction.
4. Reproduction by spores is a method of asexual reproduction.
5. A potato tuber is really an underground stem.
6. A whole new plant can grow from the eye of a tuber.
7. Cutting and grafting are natural means for reproduction.

**Ans.** 1. T 2. F 3. F 4. T 5. T 6. T 7. T 8. F

## 4. Find the odd one out, giving reasons:

1. Gamete, budding, fragmentation, regeneration.

**Ans. Gamete.**

Budding, fragmentation and regeneration are the methods of asexual reproduction while gametes are meant for sexual reproduction.

2. Cutting, grafting, layering, binary fission.

**Ans. Binary fission.**

Cutting, grafting and layering are the artificial methods of asexual reproduction in plants while binary fission is natural method of asexual reproduction in microorganisms.

3. Ovary, stigma, style, pollen grain.

**Ans. Pollen grain.**

Stigma, style and ovary are the parts of female reproductive organ while pollen grain is the part of male reproductive organ.

**5. Name the following:**

1. Part of the flower where ovule is formed.

**Ans.** Female reproductive part, carpel is present in the centre of a flower. It consists of stigma, style, and ovary. Ovary contains ovules.

2. Three agents of pollination.

**Ans.** Wind, water and insects are the agents of pollination.

3. The place where fertilisation occurs in a flowering plant.

**Ans.** Fertilization occurs in ovary with a female gamete inside an ovule.

4. Organism showing multiple fission.

**Ans.** Amoeba shows multiple fission.

**6. Mention the common method of reproduction in the following organisms:**

1. Bacteria    2. Yeast    3. Spirogyra    4. Mucor    5. Potato    6. Ginger

<b>Ans. Organism</b>	<b>Common method of reproduction</b>
1. Bacteria:	By Binary fission
2. Yeast:	By Budding
3. Spirogyra:	By Fragmentation
4. Mucor:	By spores
5. Potato:	Propagation by stem
6. Ginger:	By underground stem (Rhizome)

## 7. Answer the following Questions.

1. Why is reproduction necessary for living organism?

**Ans.** Reproduction is necessary for living organism because it maintains the genetic continuity among a species and it allows to increase in the total numbers of a species. Reproduction means to produce young ones of their own kind. It is one of the most important properties of living organism. For example, a dog produces puppy which grows into adult dog. In plants, seeds also grow into young seedlings. The seedlings in due course of time develop into mature plants as in neem tree.

2. Describe the advantages of vegetative reproduction?

**Ans.** Vegetative reproduction has following advantages:

- (i) It is an easier method. It is a less expensive and less time consuming process.
- (ii) Seedless plants can be produced by this method.
- (iii) Plants produced by this method have same characters as parent plants.
- (iv) The plants which do not produce viable seeds can grow by this method e.g., banana, sugarcane etc.

3. What are the male and female gametes in a flowering plant?

**Ans.** In a flowering plant, male gamete is pollen grain with a nucleus and female gamete is ovule in ovary.

4. What part is played by stamens and carpels in reproduction?

**Ans.** Stamens and carpels are the male and female reproductive organs in flowering plants. Stamens produce male gametes (pollen grains) and carpels produce female gamete (ovule).

5. How does vegetative propagation differ from sexual reproduction?

**Ans.** Vegetative propagation means propagation of plants by the parts other than seeds. It involves only one plant as a parent. Sexual reproduction means development of plant by seed. It involves two plants as parents.

6. Distinguish between pollination and fertilisation?

**Ans.** Pollination: Pollination means transfer of pollen grains from an anther to stigma of a plant. Fertilisation : The union of male and female gametes in the process of sexual reproduction due to which a unicellular structure called zygote is formed, is called fertilisation.

7. State two differences between insect-pollinated flowers and wind-pollinated flowers.

**Ans.** Insect-pollinated flowers are brightly coloured so that they can interact insects. They produce rough, spiny and sticky pollen grains that easily stick on the hairy parts of visiting insects. Wind-pollinated flowers are small and rarely coloured. They produce smooth-surfaced pollen grains in abundance.

8. Mention two ways in which cross-pollination is advantageous than self-pollination.

**Ans.** (1) In cross-pollination, offsprings are healthier.

(2) New varieties are produced by cross-pollination because it involves two varieties for pollination

9. How is fertilization brought about in a flower?

**Ans.** In plants, fertilization is followed by pollination. By different agents pollen grains are transferred to the stigma. These pollen grains absorb nutrients secreted by the stigma and the cytoplasm in the grain grows out as a tube. This tube grows to ovary through style and enters into the ovule. The tip of the pollen tube breaks open in the ovule, and the male nucleus enters the ovule and fuses with the female nucleus. This process of the union of male and female nucleus is called fertilisation.

10. Comment: 'Amoeba is immortal'.

**Ans.** There is no question of life or death to cell contents of Amoeba. Life means functioning of the organism as the whole. As Amoeba divides, the cell contents are equally distributed to the two daughter cells. In the first generation, the daughter cell receives half the cell content from the mother cell. In the second generation, it receives only one-fourth of the grandmother cell. For every division, the content is divided into half and this goes on forever. So we can say Amoeba is immortal.

11. What is binary fission?

**Ans.** In favourable conditions, some unicellular organisms like bacteria and amoeba reproduce by this method. In this method, firstly nucleus divides into two, then cytoplasm with a small divided nucleus in each part. These two cells separated by transverse binary fission. Thus, two daughter cells are formed from the original one. These two daughter cells act as new individuals.

12. How does hydra reproduce?

**Ans.** Hydra reproduce mainly asexually by budding.

13. When does an amoeba form a cyst?

**Ans.** In unfavourable conditions like high temperature or scarcity of food. Amoeba ceases to perform activities like feeding and locomotion. It secretes a hard cyst wall around itself and undergoes a resting phase.