Class – 7 - Ch – 11 – Reproduction in Plants

Short Question and Answers

II. Very short answer type questions

Give two examples for the following.

1. Plants that multiply by fragmentation	Ans:	Spirogyra,	Algae
2. Plants that multiply by their tuberous roots	Ans:	Sweet potato,	Dahlia
3. Plants that have corms	Ans:	Colocasia,	Gladiolus
4. Plants that multiply by cutting	Ans:	Rose,	Hibiscus
5. Plants that multiply by layering	Ans:	Jasmine,	Strawberry
6. Plants that pollinate by wind	Ans:	Grass,	Wheat
7. Plants that pollinate by water	Ans:	Vallisneria,	Hydrilla
8. Plants whose seeds disperse through explosion	Ans:	Balsam,	Pea

III. Short answer type questions

Q1 Why are underground stems swollen?

Ans: Underground stems are swollen because they store food and nutrients. This storage helps the plant survive unfavorable conditions and aids in vegetative reproduction.

Q.2 Differentiate between the following:

a. Asexual and sexual reproduction

	Asexual Reproduction	Sexual Reproduction
1.	Involves only one parent.	Involves two parents (male and female).
2.	No formation of gametes.	Involves fusion of male and female gametes.
3.	Offspring are genetically identical.	Offspring show genetic variation.

b. Self-pollination and cross-pollination

Ans:

	Feature	Self-Pollination	Cross-Pollination
1.	Number of Plants	Occurs within the same flower or plant	Occurs between two different plants of the same species
2.	Transfer of Pollen	From anther to stigma of the same flower or plant	From anther of one plant to stigma of another
3.	Genetic Variation	No genetic variation; offspring are identical	Increases genetic variation in offspring
4.	Pollinating Agents	Often does not require agents like wind or insects	Requires agents like wind, insects, water, or animals

3. Why do seeds need to disperse?

Ans: Seed dispersal helps in reducing competition for sunlight, water, and nutrients between the parent plant and the new plant. It also allows plants to colonize new and favorable environments.

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Long Question and Answers

IV. Long Answer Type Questions

1. Describe the various steps involved in tissue culture.

Ans: Tissue culture involves the following steps:

a) A small piece of plant tissue (explant) is taken from a healthy plant.
b) The tissue is placed in a sterilized nutrient medium containing hormones.
c) The cells grow and divide to form a mass called callus.
d) The callus is transferred to another medium where it develops roots and shoots.
e) The new plantlets are then transferred to soil for growth.

2. What are the advantages of vegetative reproduction?

Ans: The advantages of vegetative reproduction are: -

a) Produces genetically identical plants (clones).
b) Faster and easier than seed-based reproduction.
c) Can produce plants without seeds.
d) Helps maintain desired traits in plants.
e) Useful for propagating plants that do not produce viable seeds.

3. What happens after successful pollination?

Ans: After successful pollination:

a) Pollen grains germinate on the stigma.
b) A pollen tube forms and grows down the style.
c) Male gametes travel through the tube and fuse with the ovule in the ovary.
d) Fertilization occurs, forming a zygote.
e) The zygote develops into an embryo, and the ovule becomes a seed.
f) The ovary becomes the fruit.

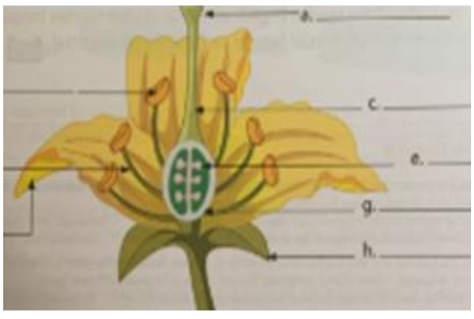
4. Explain with examples the different ways in which seeds disperse.

Ans: Seeds are dispersed in different ways to reduce competition and help plants grow in new places. The main methods of seed dispersal are:

a) **By Wind**: Seeds are light or have wings/hairs to float in the air.
Example: Dandelion, Maple.
b) **By Water**: Seeds float on water and travel to new locations.
Example: Coconut, Lotus.
c) **By Animals**: Some seeds stick to animal fur or are eaten and later excreted.
Example: Xanthium (sticks), Guava (eaten).
d) **By Explosion**: Some fruits burst open, throwing seeds away from the plant.
Example: Balsam, Castor.
e) **By Animals**: Seeds have hooks or are eaten and excreted, e.g., **xanthium**, **guava**.
f) **By Explosion**: Fruits burst open to scatter seeds, e.g., **balsam**, **castor**.

LET'S OBSERVE

Q.1 Look at the picture and answer the following questions.



a. This is a **bulb** (bulb/rhizome/tuber).
b. It is an underground **stem** (root/stem/leaf).
c. This is an **asexual** (sexual/asexual) method of reproduction

Q.2 Label the organs in the complete flower given below. Circle the female parts.

Ans: Label the parts:

a. Stigma	b. Anther	c. Style	d. Filament
e. ovules	f. petals	g. ovary	h. sepals

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