PRISM WORLD

Std.: 9 (English) **Science 2**

Chapter: 6

Q.1 **Fill in the blank and rewrite the completed statements** **2**

1 Male and female flowers of ..... are born on different sporophylls of the same plant.

Ans Male and female flowers of **gymnosperms** are born on different sporophylls of the same plant.

2 In pteridophytes, asexual reproduction occurs by ..... formation and sexual reproduction occurs by ..... formation.

Ans In pteridophytes, asexual reproduction occurs by **spores** formation and sexual reproduction occurs by **zygote** formation.

Q.2 **Match the pair** **3**

1

Column A	Column B	Column C
i. Gymnosperms	a. Seeds are formed in fruits.	i. Fern
ii. Angiosperms	b. Tissues are present for conduction of water and food	ii. Algae
	c. These plants mainly grow in water.	iii. Tamarind
	d. No natural covering on seeds.	iv. Cycas

Ans

i. Gymnosperms	No natural covering on seeds.	Cycas
ii. Angiosperms	Seeds are formed in fruits.	Tamarind

2

Column A	Column B	Column C
i. Thallophyta	a. Seeds are formed in fruits.	i. Moss
ii. Bryophyta	b. No natural covering on seeds.	ii. Algae
	c. These plants mainly grow in water.	iii. Cycas
	d. These plants need water for reproduction.	iv. Fern

Ans

i. Thallophyta	These plants mainly grow in water.	Algae
ii. Bryophyta	These plants need water for reproduction.	Moss

3

Column A	Column B	Column C
i. Pteridophyta	a. Seeds are formed in fruits.	i. Cycas
ii. Gymnosperms	b. Tissues are present for conduction of water and food	ii. Algae
	c. These plants mainly grow in water.	iii. Tamarind
	d. No natural covering on seeds.	iv. Fern

Ans

i. Pteridophyta	Tissues are present for conduction of water and food.	Fern
ii. Gymnosperms	No natural covering on seeds.	Cycas

Q.3 **Name the following** **2**

1 Name the Plant that have soft and fibre-like body.

Ans **Thallophyta.**

2 Name the Amphibian' of the plant kingdom.

Ans **Bryophyta.**

Q.4 **Write Short Notes** **2**

1 Criteria for classification of plants.

Ans
i. The presence or absence of organs is the first criterion for classification of plants.
ii. The presence or absence of separate conducting tissues for conduction of water and food is the next consideration for classification.
iii. At the higher levels of plant classification, different characteristics are considered for classification, e.g. depending upon the absence or presence of flowers, fruits and seeds, plants are classified as cryptogams or phanerogams.
iv. Depending upon whether seeds are enclosed within a fruit or not, phanerogams are classified as gymnosperms and angiosperms.
v. Angiosperms are further classified as monocots or dicots depending upon the number of cotyledons in seeds.

Q.5 **Distinguish between** **2**

1 Distinguish between monocots and dicots

Ans

	Monocots	**Dicots**
i.	Plants whose seeds have single cotyledon.	Plants whose seeds have two cotyledons.
ii.	They have fibrous roots.	They have well developed primary roots (tap root).
iii.	Stems are hollow, false or disc-like.	Stems are strong and hard.
iv.	Leaves show parallel venation.	Leaves show reticulate venation.
v.	Flowers are trimerous.	Flowers are tetramerous or pentamerous.
vi.	e.g. Bamboo, Banana, Onion, Coconut.	e.g. Banyan, Mango, Bengal gram, Sweet pea.

Q.6 **Complete the table/ web/ flow chart** **9**

1 Complete the given table.

No.	**Name of plant**	**Symmetry of Flowers**	**Type of Seed**
i.	China rose	.....	.....
ii.	Aloe vera	.....	.....
iii.	Coconut	.....	.....

Ans

No.	**Name of plant**	**Symmetry of Flowers**	**Type of Seed**
i.	China rose	**Pentamerous**	**Dicoty ledonous**
ii.	Aloe vera	**Trimerous**	**Monocoty ledonous**
iii.	Coconut	**Trimerous**	**Monocotyledonous**

2 Complete the given table.

No.	Name of plant	Type of Stem	Type of leaf venation
i.	China rose	.....	.....
ii.	Aloe vera	.....	.....
iii.	Coconut	.....	.....

Ans

No.	Name of plant	Type of Stem	Type of leaf venation
i.	China rose	**Strong, hard and woody**	**Reticulate venation**
ii.	Aloe vera	**Short, underground**	**Parallel venation**
iii.	Coconut	**Woody, without branching**	**Parallel venation**

3 Complete the given table.

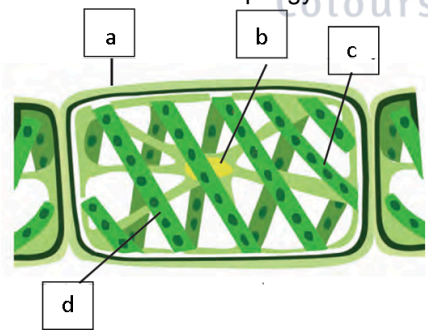
No.	Name of plant	Type of Plant	Type of Root
i.	China rose	.....	.....
ii.	Aloe vera	.....	.....
iii.	Coconut	.....	.....

Ans

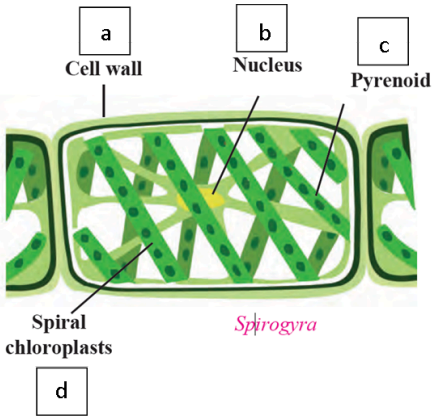
No.	Name of plant	Type of Plant	Type of Root
i.	China rose	**Dicot**	**Tap root**
ii.	Aloe vera	**Monocot**	**Fibrous root**
iii.	Coconut	**Monocot**	**Fibrous root**

Q.7 **Write answers based on given diagram** **6**

1 label and describe the Spirogyra.



Ans



i. Spirogyra is an unicellular algae.
ii. It falls under the sub-kingdom Cryptogam, in the division Thallophyta.
iii. In Spirogyra, the chloroplasts are spiral in shape and thus, is called Spirogyra.
iv. Thallophytes mainly live in water.
v. This group of plants, which do not have specific parts like root-stem-leaves-flowers but are autotrophic

due to the presence of chlorophyll, is called algae.

vi. Algae show great diversity. They may be unicellular or multicellular, and microscopic or large.

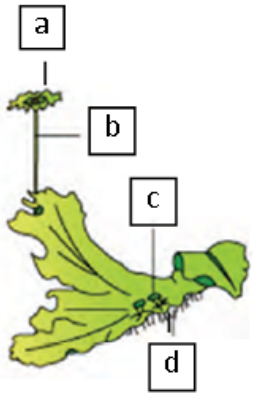
vii. Other Examples of algae are Ulothrix, Ulva, Sargassum, etc.

viii. Some of these are found in fresh water while some are found in saline water.

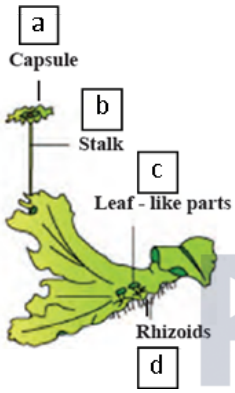
ix. These plants usually have a soft and fibre-like body.

x. Various types of fungi like yeasts and moulds which do not have chlorophyll are also included in this group.

2 Labeled the diagram of Marchantia an Give any 4 characteristics of division Bryophyta.



Ans



i. Marchantia belongs to the division Bryophyta.

ii. This group of plants is called the 'amphibians' of the plant kingdom.

iii. This is because they grow in moist soil but need water for reproduction.

iv. These plants are thalloid, multicellular and autotrophic. They reproduce asexually by spore formation.

v. The structure of the plant body of bryophytes is flat, ribbon-like long, without true roots, stem and leaves.

vi. Instead, they have stem-like or leaf-like parts and root-like rhizoids.

vii. They do not have specific tissues for conduction of food and water.

viii. Other Examples are Moss (Funaria), Anthoceros, Riccia, etc.

Q.8 Answer the following **6**

1 Write any 4 characteristics of the plants belonging to division Bryophyta.

Ans i. Plants belonging to division bryophyta are called the amphibians of the plant kingdom. It is because they grow in moist soil but need water for reproduction.

ii. The plants belonging to this division are thalloid, multicellular and autotrophic.

iii. The structure of the plant body is flat, ribbon-like long, without true roots, stem and leaves.

iv. Plant body is made up of stem-like or leaf-like parts and root-like rhizoids.

v. Bryophytes do not have specific tissues for conduction of food and water.

vi. They reproduce by spore formation.

vii. e.g. Moss (Funaria), Marchantia, Anthoceros, Riccia., etc.

2 Write any 4 characteristics of subkingdom Phanerogams.

Ans i. Phanerogams have special structures for reproduction.

ii. They are seed bearign plants.

iii. Seeds are formed after the process of reproduction and contain embryo and stored food.

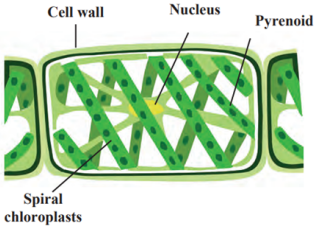
iv. Phanerogams are further classified into two division gymnosperms and angiosperms.

v. They show presence of separate conducting tissues for conduction of water and food.

Q.9 Extra data **15**

1 Sketch and label the figures of the following plants and explain them in brief.
Spirogyra

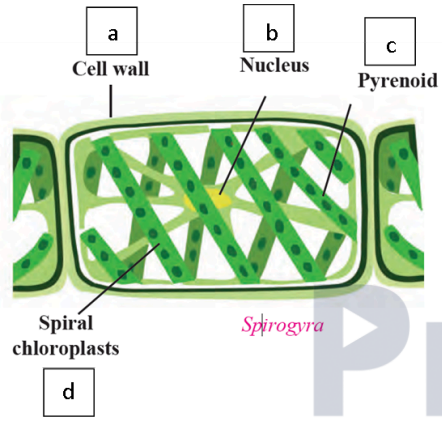
Ans



i. Spirogyra is a green free-floating filamentous alga that belongs to subkingdom cryptogams and division thallophyta.
ii. It is found growing abundantly in ponds, ditches, springs, slow running water or streams, etc.
iii. The Spirogyra filament is unbranched and consists of a single row of cylindrical cells.
iv. Each cell is lined by cell wall.
v. Nucleus is situated in the middle of cell.
vi. Chloroplast is spirally arranged green, thread-like structure. Several phrenoids are seen in spiral chloroplasts.

2 Spirogyra

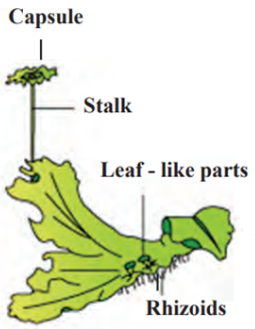
Ans



i. Spirogyra is an unicellular algae.
ii. It falls under the sub-kingdom Cryptogam, in the division Thallophyta.
iii. In Spirogyra, the chloroplasts are spiral in shape and thus, is called Spirogyra.
iv. Thallophytes mainly live in water.
v. This group of plants, which do not have specific parts like root-stem-leaves-flowers but are autotrophic due to the presence of chlorophyll, is called algae.
vi. Algae show great diversity. They may be unicellular or multicellular, and microscopic or large.
vii. Other Examples of algae are Ulothrix, Ulva, Sargassum, etc.
viii. Some of these are found in fresh water while some are found in saline water.
ix. These plants usually have a soft and fibre-like body.
x. Various types of fungi like yeasts and moulds which do not have chlorophyll are also included in this group.

3 Sketch and label the figures of the following plants and explain them in brief.
Marchantia

Ans



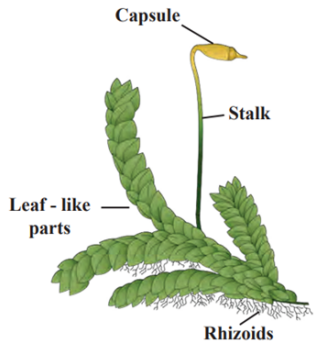
i. It belongs to subkingdom cryptogams and division bryophyta.
ii. It grows on damp ground and old walls, especially during rainy season, forming a sort of geen carpet.
iii. The thallus bears number of rhizoids on lower surface.
iv. On the upper surface thallus shows stalk bearing a capsule which contains spores.

v. The capsule at maturity liberates spores for asexual reproduction.

Q.10 **Answer the following in detail** **10**

1 Sketch and label the figures of the following plants and explain them in brief.
Funaria

Ans



i. It is most commonly found bryophyta on old damp walls, trunks of trees and damp ground during rainy season.
ii. A moss plant is small and consists of minute green leaf-like structures crowded at the apex.
iii. On lower side, plant bears a number of slender multicellular thread like rhizoids which perform the functions of roots.
iv. The moss plant reproduces sexually by the fusion of gametes. This results in development of plant body (Sporophyte).
v. Sporophyte shows presence of stalk bearing a capsule which contains spores. The capsule at maturity liberates spores for asexual reproduction.

2 Sketch and label the figures of the following plants and explain them in brief.
Ferns

Ans

i. Ferns are a big group of highly advanced cryptogams and are widely distributted all over the earth.
ii. They grow abundantly in cool, shady, moist places.
iii. Roots are adventitious (fibrous) growing from the underground stem.
iv. Leaves are well developed on the stem (Rhiozome).
v. They show presence of water and food conducting tissues.
vi. They reproduce asexually by spores produced along the posterior surface of leaves and have neither seeds nor flowers.
vii. Some ferns are used as food, medicine or as ornamental plants.