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# Biology

## Assignment

## Question 1 MCQs

1- Not a characteristic of monocots:

A) Petals of five or multiple of five.

2- Wings involved in pollination

B) Gymnosperms.

3- Presence of ligules.

A) Filicinae.

4- Female gametophyte of angiosperms.

C) 7 cells.

5- Formation of ropes.

C) Saccharum munja.

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# Question 2 Short Questions

(i)

## Amphibians of plants

The bryophytes are said to be the amphibians of the plant world because they cannot live away from water. They need water for reproduction.

(ii)

## Significance of alternation of generation

Alternation of generations ensures genetic diversity through sexual reproduction (gametophyte) and asexual reproduction (sporophyte). It helps plants adapt to different environments, increases reproductive success, and plays a key role in the evolution and colonization of new areas.

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(iii)

## Arthrophytes

Plants belonging to this group (sphenopsida) are also called arthroptytes because the whole plant body composed of large number of joints.

(iv)

## Life cycle of bryophyte

- Gametophyte (haploid):

Spores germinate into a gametophyte, which produces male (antheridia) and femal (archegonia) reproductive organs. Sperm swim to the egg in water for fertilization.

- Fertilization

A sperm fertilizes an egg, forming a diploid zygote.

- Sporophyte (diploid):

The zygote develops into a sporophyte attached to the gametophyte, which produces spores through meiosis.

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- Spore dispersal
Mature spores are released and germinate into new gametophytes, completing the cycle.

This alternation of generation involves a dominant gametophyte stage and a dependant sporophyte stage.

(v)

**Hornwort:**

Hornworts are considered more advanced than other bryophytes because they have photosynthetic sporophytes, stomata for gas exchange, and can form symbiotic relationships with nitrogen-fixing bacteria, allowing them to thrive in nutrient-poor environments.