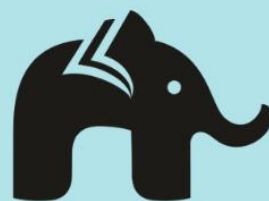
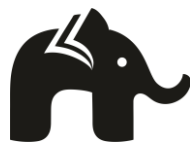


PRACTICE MCQS

CLASS 12 BIOLOGY (TERM - I)
**SEXUAL REPRODUCTION IN
FLOWERING PLANTS**

BY
learn-o-hub
learning simplified





Question 1:

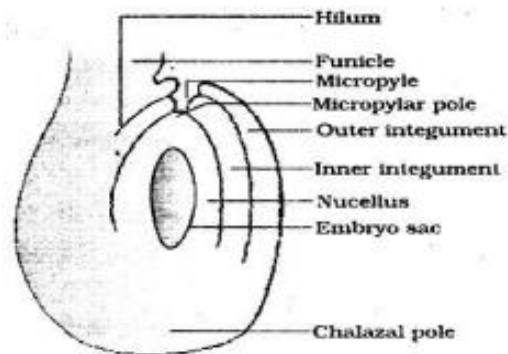
The structure of bilobed anther consists of

- (a) 2 thecae, 2 sporangia
- (b) 4 thecae, 4 sporangia
- (c) 4 thecae, 2 sporangia
- (d) 2 thecae, 4 sporangia

Answer: (d) 2 thecae, 4 sporangia

Question 2:

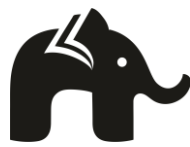
In the figure of anatropous ovule given below, choose the correct option for the characteristic distribution of cells within the typical embryo sac



	Number of cells at chalazal end	Number of cells at micropylar end	Number of nuclei left in central cell
a	3	2	3
b	3	3	2
c	2	3	3
d	2	2	4

Answer: (b) 3, 3, 2

In chalazar end, 3 in the micropylar end and 2 nuclei in the center.



Question 3:

Pollen grains are well preserved as fossils because of presence of

- (a) sporopollenin
- (b) cellulose
- (c) lignocellulose
- (d) pectocellulose

Answer: (a) Sporopollenin

Question 4:

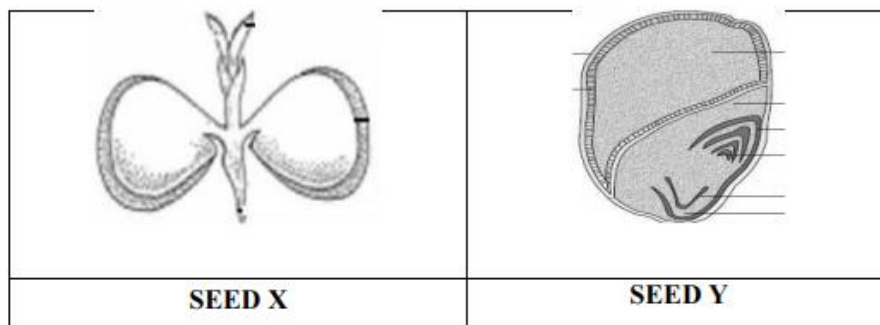
The coconut water from tender coconut is

- (a) cellular endosperm
- (b) free nuclear endosperm
- (c) both cellular and nuclear endosperm
- (d) free nuclear embryo

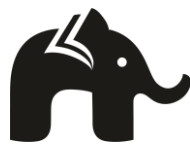
Answer: (b) Free nuclear endosperm

Question 5:

Which of the following statements are true related to Seed X and Y?



- (i) Seed X is dicot and endospermic or albuminous.
- (ii) Seed X is dicot and non-endospermic or non-albuminous.
- (iii) Seed Y is monocot and endospermic or albuminous.
- (iv) Seed Y is monocot and non-endospermic or non-albuminous.



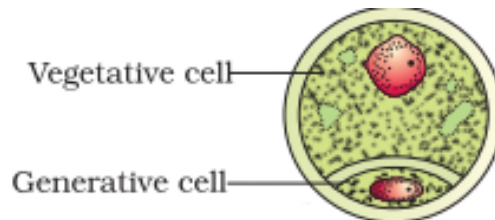
Choose the correct option with the respect to the nature of the seed.

- (a) (i), (iii)
- (b) (ii), (iii)
- (c) (i), (iv)
- (d) (ii), (iv)

Answer: (b)

Question 6:

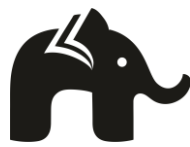
Study the picture below and find out the correct statement.



- (a) Vegetative cell is a non-reproductive cell and generative cell is a reproductive cell.
- (b) Vegetative cell contains actively dividing nucleus and generative cell contains irregularly shaped nucleus.
- (c) Generative cell being bigger floats in cytoplasm.
- (d) All the above given statements are correct.

Answer: (a) Vegetative cell is a non-reproductive cell and generative cell is a reproductive cell.

Vegetative cell contains dominant nucleus and generative cell contains actively dividing nucleus. The vegetative cell is bigger, has abundant food reserve and a large irregularly shaped nucleus. The generative cell is small and floats in the cytoplasm of the vegetative cell. It is spindle shaped with dense cytoplasm and a nucleus.



Question 7:

The period for which pollen grains remain viable is highly variable and to some extent depends on the prevailing temperature and humidity. The viability of pollen grains in rice is

- (a) 30 days
- (b) 3 days
- (c) 3 hours
- (d) 30 minutes

Answer: (d) 30 minutes

In some cereals such as rice and wheat, pollen grains lose viability within 30 minutes of their release, and in some members of Rosaceae, Leguminosae and Solanaceae, they maintain viability for months.

Question 8:

In a fertilized ovule, n , $2n$ and $3n$ conditions occur respectively in

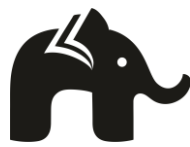
- (a) antipodal, zygote and endosperm
- (b) zygote, nucellus and endosperm
- (c) endosperm, nucellus and zygote.
- (d) antipodals, synergids and integuments

Answer: (a) antipodal, zygote and endosperm

Question 9:

During megasporogenesis, potential megaspore mother cell undergoes following cell divisions to form gametophyte female

- (a) two meiotic divisions and three mitotic division
- (b) one meiotic and one mitotic divisions
- (c) one meiotic and three mitotic divisions
- (d) one meiotic and two mitotic divisions



Answer: (c) one meiotic and three mitotic divisions

Question 10:

Apomictic embryos in Citrus arise from

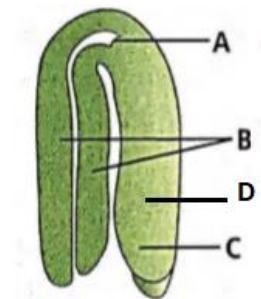
- (a) diploid Egg
- (b) synergids
- (c) nucellus
- (d) antipodal cells

Answer: (c) nucellus

Question 11:

Choose the correct labelling.

- (a) A – Plumule B – Epicotyl C – Hypocotyl D – Root Cap
- (b) A – Plumule B – Cotyledons C – Hypocotyl D – Radicle
- (c) A – Plumule B – Cotyledons C – Epicotyl D – Root Cap
- (d) A – Radicle B – Epicotyl C – Hypocotyl D – Cotyledon



Answer: (b) A – Plumule B – Cotyledons C – Hypocotyl D – Radicle

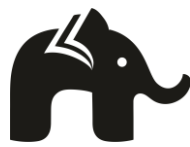
Question 12:

Choose the correct option from the following table.

Option		Ploidy
(a)	PEN	n
(b)	Nucellus	3n
(c)	MMC	2n
(d)	Female Gametophyte	2n

Answer: (c) MMC – 2n (diplod)

Option		Ploidy
(a)	PEN	3n



(b)	Nucellus	2n
(c)	MMC	2n
(d)	Female Gametophyte	n

Question 13:

Starting from the innermost part, the correct sequence of parts in an ovule is,

- (a) egg, nucellus, embryo sac, integument
- (b) egg, embryo sac, nucellus, integument
- (c) embryo sac, nucellus, integument, egg
- (d) egg, integument, embryo sac, nucellus

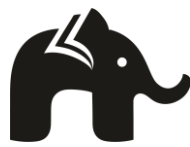
Answer: (b) egg, embryo sac, nucellus, integument

Question 14:

Double fertilization is

- (a) Fusion of one male gamete nucleus with egg nucleus while fusion of other male gamete nucleus with secondary nucleus
- (b) Fusion of male gamete nucleus with secondary nucleus
- (c) Fusion of two polar nuclei with each other
- (d) Fusion of male gamete nucleus with egg nucleus

Answer: (a) Fusion of one male gamete nucleus with egg nucleus while fusion of other male gamete nucleus with secondary nucleus



Question 15:

At what stage of endosperm development, you will observe nuclear or cellular type of endosperm

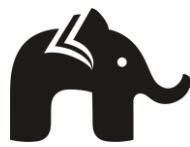
- (a) When divisions starts in embryo
- (b) When embryo is heart-shaped
- (c) Mature stage of endosperm
- (d) Just after division of primary endosperm nucleus

Answer: (d) Just after division of primary endosperm nucleus

Question 16:

In angiosperms, choose the correct sequence of events during megasporogenesis and megagametogenesis

- (i) Differentiation of megaspore mother cells
 - (ii) Meiosis of the megaspore mother cell
 - (iii) Formation of a linear tetrad
 - (iv) Mitotic division of the functional megaspore
 - (v) Degeneration of 3 megaspores
 - (vi) Formation of embryo sac
 - (vii) Fusion of polar nuclei
- (a) v, i, ii, vi, vii, iii, iv
 - (b) iv, iii, vii, vi, ii, i, v
 - (c) v, i, ii, vii, vi, iv, iii
 - (d) v, i, ii, vi, vii, iv, iii



Answer: (c) v, i, ii, vii, vi, iv, iii

Question 17:

The pollen grains in angiosperms are pollinated at

- (a) one-celled stage
- (b) two-celled stage
- (c) three-celled stage
- (d) eight-celled stage

Answer: (b) two-celled stage

Question 18:

The milky water of coconut is

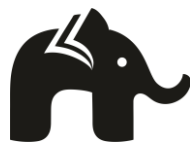
- (a) nucellus
- (b) liquid endosperm
- (c) hypocotyl
- (d) none of these

Answer: (b) liquid endosperm

Question 19:

Which of the following is the best example of polyembryony?

- (a) Pinus
- (b) Mango
- (c) Capsicum
- (d) Pea



Answer: (a) Pinus

Question 20:

The outermost layer of endosperm of maize grain is

- (a) Epidermis
- (b) Tunica
- (c) Aleurone
- (d) Epicarp

Answer: (c) Aleurone

Assertion Reason based Questions

Answer these questions selecting the appropriate option given below:

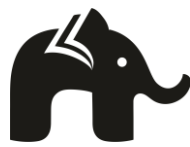
- (a) Both A and R are true and R is the correct explanation of A.
- (b) Both A and R are true and R is not the correct explanation of A.
- (c) A is true but R is false.
- (d) A is False but R is true

Question 21:

A: Although geitonogamy is functionally cross-pollination involving a pollinating agent, genetically it is similar to autogamy.

R: In geitonogamy, pollen grains from the anthers of one flower are transferred to the stigma of another flower borne on the same plant.

Answer: (a) Both A and R are true and R is the correct explanation of A.



Question 22:

A: Angiospermic flowers perform the function of sexual reproduction.

R: The male and female reproductive structures are found in the flowers.

Answer: (a) Both A and R are true and R is the correct explanation of A.

Angiospermic flowers possess male and female sex organs and perform the sexual reproduction.

Question 23:

A: Tapetum helps in the liberation of microspores from tetrad.

R: Tapetum shows callose activity.

Answer: (a) Both A and R are true and R is the correct explanation of A.

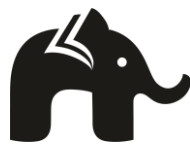
Case study based questions

Question 24:

Pollination is the act of transferring pollen grains from male anther of a flower to the female stigma.

The goal of every living organism including plants is to create offspring for the next generation. One of the ways that plants can produce offspring is by making seeds which then germinate to produce new plants. Two types of flowers with their pollination seen in plants are chasmogamy and cleistogamy. Chasmogamous flowers have striking coloured petals and nectar nectarines in contrast to cleistogamous flowers which are minute bud-like.

1. Cleistogamous flowers are strictly autogamous because they remain
(a) always open



- (b) always close
- (c) always fragraned
- (d) brightly coloured

2. In chasmogamy, pollination takes place in

- (a) open flower
- (b) closed flower
- (c) large flower
- (d) geitonogamy flower

3. Advantage of cleistogamy is

- (a) higher genetic variability
- (b) more vigorous offspring
- (c) no dependence on pollination
- (d) viviparary

4. Even in the absence of pollinating agents, seed-setting is assured in

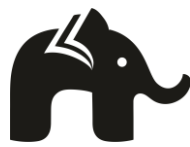
- (a) Commelina
- (b) Zostera
- (c) Salvia
- (d) Fig

5. Identify the features of the type of the flower given below:

Choose the correct conclusions drawn from this figure.

- I. Cleistogamous flowers are not dependent on pollinators.
- II. Chasmogamous flowers are bisexual.
- III. Chasmogamous flowers do not show cross pollination.

- (a) I and II
- (b) I and III
- (c) II and III
- (d) Only I



Answer:

1. (b) always close

Cleistogamous flowers are strictly autogamous because they remain always close.

2. (a) open flower

In chasmogamy, pollination takes place in open flower.

3. (c) no dependence on pollination

The advantage of cleistogamy is no dependence on pollinators.

4. (a) Commelina

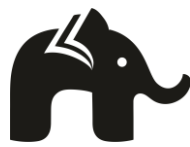
Commelina has cleistogamous flowers thus no pollinating agents are required for pollination.

5. (d) Only I

Cleistogamous flowers are not dependent on pollinators. These are bisexual flowers which never open thus always remain closed. Therefore, there is no change of cross-pollination in them.

Question 25:

The ovule or the microsporangium develops as a small protuberance of the placental tissue. In the very young ovule, a single hypodermal cell is differentiated as the archesporium. This archesporium cell may or may not cut off some parietal cells and then becomes the megaspore mother cell (MMC). The MMC undergoes division division to form megaspore cells. Meanwhile two integuments develop from the base of the ovule.



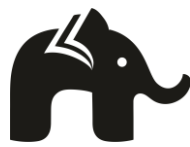
1. An ovule is a
 - (a) differentiated megasporangium
 - (b) dedifferentiated megasporangium
 - (c) integumented megasporangium
 - (d) redifferentiated megasporangium

2. Embryo sac is called
 - (a) female gamete
 - (b) synergids
 - (c) female gametophyte
 - (d) egg of angiosperm

3. In which type whole of the megaspore mother cell takes part in the formation of the female gametophyte
 - (a) Monosporic 8 nucleate
 - (b) Monosporic 4 nucleate
 - (c) Bisporic
 - (d) Tetrasporic

4. Generally how many megaspores take part in the development of female gametophyte?
 - (a) One
 - (b) Two
 - (c) Three
 - (d) Four

5. MMC is found near the region of
 - (a) micropyle
 - (b) chalaza



- (c) nucellus
- (d) integuments

Answer:

1. (c) integumented megasporangium

An ovule is integumented megasporangium.

2. (c) female gametophyte

Embryo sac is called female gametophyte.

3. (d) Tetrasporic

The diploid megaspore mother cell enlarges in size and divides by meiosis to form a linear tetrad of four haploid megaspores. Megaspore is the first cell of female gametophyte.

4. (a) One

One megaspore mother cell forms four megaspores, three out of four megaspores degenerate and only one megaspore takes part in the formation of female gametophyte.

5. (a) micropyle

MMC is found near the region of micropyle.
