DPP MCQ TERM I CLASS XII BIOLOGY – Sexual Reproduction in Flowering Plants

Q. 1. Among the terms listed below, those that of are not
technically correct names for a floral whorl are :
(i) Androecium (ii) Carpel (iii) Corolla (iv) Sepal
(A) (i) and (iv) **(B)** (iii) and (iv)
(C) (ii) and (iv) **(D)** (i) and (ii)

Q. 2. Embryo sac is related to ovule as _____ is related
to an anther.
(A) Stamen
(B) Filament
(C) Pollen grain
(D) Androecium

Q. 3. In a typical complete, bisexual and hypogynous
flower the arrangement of floral whorls on the thalamus from the outermost to the innermost is:
(A) Calyx, corolla, androecium and gynoecium
(B) Calyx, corolla, gynoecium and androecium
(C) Gynoecium, androecium, corolla and calyx
(D) Androecium, gynoecium, corolla and calyx

Q. 4. A dicotyledonous plant bears flowers but never
produces fruits and seeds. The most probable cause
for the above situation is:
(A) Plant is dioecious and bears only pistillate flowers
(B) Plant is dioecious and bears both pistillate and staminate flowers
(C) Plant is monoecious
(D) Plant is dioecious and bears only staminate

Q. 5. The outermost and innermost wall layers of microsporangium in an anther are respectively:
(A) Endothecium and tapetum
(B) Epidermis and endodermis
(C) Epidermis and middle layer
(D) Epidermis and tapetum

Q. 6. During microsporogenesis, meiosis occurs in:
(A) Endothecium
(B) Microspore mother cells
(C) Microspore tetrads
(D) Pollen grains.

Q. 7. From among the sets of terms given below, identify
those that are associated with the gynoecium.
(A) Stigma, ovule, embryo sac, placenta
(B) Thalamus, pistil, style, ovule
(C) Ovule, ovary, embryo sac, tapetum
(D) Ovule, stamen, ovary, embryo sac

Q. 8. From the statements given below choose the option
that are true for a typical female gametophyte of a flowering plant:
(i) It is 8-nucleate and 7-celled at maturity
(ii) It is free-nuclear during the development
(iii) It is situated inside the integument but outside the nucellus
(iv) It has an egg apparatus situated at the chalazal end
(A) i and iv,
(B) ii and iii
(C) i and ii
(D) ii and iv

Q. 9. Autogamy can occur in a chasmogamous flower if:
(A) Pollen matures before maturity of ovule
(B) Ovules mature before maturity of pollen
(C) Both pollen and ovules mature simultaneously
(D) Both anther and stigma are of equal lengths

Q. 10. Choose the correct statement from the following:
(A) Cleistogamous flowers always exhibit autogamy
(B) Chasmogamous flowers always exhibit

geitonogamy
(C) Cleistogamous flowers exhibit both autogamy and geitonogamy
(D) Chasmogamous flowers never exhibit autogamy

Q. 11. A particular species of plant produces light, nonsticky
pollen in large numbers and its stigmas are long and feathery. These modifications facilitate pollination by:
(A) Insects **(B)** Water
(C) Wind **(D)** Animals

Q. 12. From among the situations given below, choose the
one that prevents both autogamy and geitonogamy.
(A) Monoecious plant bearing unisexual flowers
(B) Dioecious plant bearing only male or female flowers
(C) Monoecious plant with bisexual flowers
(D) Dioecious plant with bisexual flowers

Q. 13. While planning for an artificial hybridization
programme involving dioecious plants, which of the following steps would not be relevant:
(A) Bagging of female flower
(B) Dusting of pollen on stigma
(C) Emasculation
(D) Collection of pollen

Q. 14. In a flower, if the megaspore mother cell forms
megaspores without undergoing meiosis and if one
of the megaspores develops into an embryo sac, its
nuclei would be:
(A) Haploid
(B) Diploid
(C) A few haploid and a few diploid
(D) With varying ploidy.

Q. 15. Which one of the cell in an embryo-sac produce
endosperm after double fertilization?
(A) Synergids cell **(B)** Antipodal cell
(C) Central Cell **(D)** Egg

Q. 16. Starting from the innermost part, the correct
sequence of parts in an ovule are,
(A) egg, nucellus, embryo sac, integument
(B) egg, embryo sac, nucellus, integument
(C) embryo sac, nucellus, integument, egg
(D) egg, integument, embryo sac, nucellus.

Q. 17. In a fertilised embryo sac, the haploid, diploid and
triploid structures are:
(A) Synergid, zygote and primary endosperm nucleus
(B) Synergid, antipodal and polar nuclei
(C) Antipodal, synergid and primary endosperm nucleus
(D) Synergid, polar nuclei and zygote.

Q. 18. In an embryo sac, the cells that degenerate after
fertilisation are:
(A) Synergids and primary endosperm cell
(B) Synergids and antipodals
(C) Antipodals and primary endosperm cell
(D) Egg and antipodals.

Q. 19. In the embryos of a typical dicot and a grass, true
homologous structures are :
(A) Coleorhiza and coleoptile
(B) Coleoptile and scutellum
(C) Cotyledons and scutellum
(D) Hypocotyl and radicle.

Q. 20. The phenomenon observed in some plants wherein
parts of the sexual apparatus is used for forming embryos without fertilisation is called:
(A) Parthenocarpy
(B) Apomixis
(C) Vegetative propagation
(D) Sexual reproduction.

Directions : In the following questions a statement
of assertion (A) is followed by a statement of reason (R). Mark the correct choice as :
(A) Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A).
(B) Both assertion (A) and reason (R) are true but reason (R) is not the correct explanation of assertion (A).
(C) Assertion (A) is true but reason (R) is false.
(D) Assertion (A) is false but reason (R) is true.

Q. 1. Assertion (A) : Tapetum is a part of anther wall that
has 2-3 layers of cells.
Reason (R) : Tapetum layers helps in development
and growth of pollen grain.
Ans. Option (B) is correct.
Explanation : In flowering plants, tapetum are the specialized cells that provide nutrition to the pollen grain within the anther.

Q. 2. Assertion (A) : Pollen grains are best preserved as
fossils.
Reason (R) : The sporopollenin of exine is highly resistant to the action of strong acids and alkali and
can withstand a high temperature.

Q. 3. Assertion (A) : Tapetum is formed during the
process of the formation of microsporangium.
Reason (R) : The play an important role in guiding
the pollen tubes into the synergid.

Q. 4. Assertion (A) : Flowers are structure of sexual
reproduction.
Reason (R) : Different type of embryological process
occur inside the flower.

Q. 5. Assertion (A) : Cleistogamous flowers can produce
seeds without pollination.
Reason (R) : Cleistogamous flowers have no chance of cross pollination and they are invariably autogamous.

Q. 6. Assertion (A) : Entomophilous flowers are large,
colourful, fragrant and rich in nectar.
Reason (R) : If helps in attracting the pollinating agent.

Q. 7. Assertion (A) : In *Ophrys* one petal of the flower
bears on an uncanny resemblance to the female bee.
Reason (R) : Two closely related species competing
for the same resource can co-exist simultaneously.

Q. 8. Assertion (A) : Perisperm is a haploid tissue.
Reason (R) : Perisperm is the remains of nucellus which surround the embryo in certain seeds.

Q. 9. Assertion (A) : Pea, bean, mustard are nonalbuminous
seeds.
Reason (R) : These seeds retain a part of endosperm
as it is not completely used up during embryo development. **1**

Q. 10. Assertion (A) : Geitonogamous flowering plants
are cross-pollinated plants.
Reason (R) : In geitonogamous flowering plants the
pollen is transferred to the stigma of another flower
of another plant.

Q. 11. Assertion (A) : Fertilization in flowers, produces
fruits and seeds.

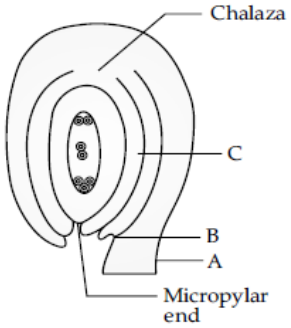
Reason (R) : After fertilization the ovary develops
into fruits and ovule develops into seed. **1**

Q. 12. Assertion (A) : Seed is the final product of sexual
reproduction in angiosperms.
Reason (R) : A seed typically bears seed coat, cotyledons and an embryo axis.

Attempt any 4 sub-parts from each question. Each sub-part carries 1 mark.

I. Read the following text and answer the following questions on the basis of the same:

Study the given diagram and answer any of the four questions given below:



Q.1. This diagram represent which type of ovule
(A) Atropous **(B)** Orthotropous
(C) Anatropous **(D)** Amphitropous

Q.2. A is the stalk of the ovule is called
(A) Hilum **(B)** Pedicle
(C) Chalazal pole **(D)** Funicle

Q.3. The junction of attachment of funicle with the body
of ovule at B is
(A) Funicle **(B)** Hilum
(C) Nucellus **(D)** Chalazal pole

Q.4. Tegmen develops from the part labelled C in the
figure is called
(A) Inner integument **(B)** Outer Integument
(C) Funicle **(D)** Chalazal pole

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of Assertion (A) is followed by a statement of Reason (R). Mark the correct choice as :**
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(C) Assertion (A) is true, but reason (R) is false.
(D) Assertion (A) is false, but reason (R) is true.

Q. 5. Assertion (A) : Most common type of ovule is
anatrous.
Reason (R) : Anatropous ovule is horse-shoe shaped.

**II. Read the following text and answer the following
questions on the basis of the same:**

Gynoecium, is the female reproductive part of the flower. It may consist of a single or more than one pistil. These pistil may be free or fuse. Each pistils has three parts, stigma, style and ovary. Ovary has an ovarian cavity, which has one or many chambers
or locules. The placenta is located inside the ovarian
cavity. Megasporangia or ovules arise from the placenta.

Q. 1. In which of the following plants the number of
ovules in an ovary is one ?
(A) Mango **(B)** Orchids
(C) Water melon **(D)** Papaya

Q. 2. A multicarpellary, syncarpous gynoecium is found
in :
(A) Papaver **(B)** Brinjal
(C) Tomato **(D)** All

Q. 3. 82% of ovules found in angiosperms are ..... .
(A) Anatropous **(B)** Amphitropous

(C) Orthotropous **(D)** Circinotropous

Q. 4. Which among the following cell is binucleate in an
embryo sac ?
(A) Antipodal cell **(B)** Central cell
(C) Synergid **(D)** Female gamete

.

Q. 5. Flowers with both androecium and gynoecium are
called :
(A) Bisexual flowers **(B)** Anther
(C) Unisexual flowers **(D)** Androgynous

III. Read the following text and answer the following
questions on the basis of the same:
A typical anther is bilobed. It is a tetragonal structure consisting of four microsporangia. These microsporangia form pollen sac which on maturity gets filled with a pollen grains. Pollen grains represent the male gametophytes, their cell wall is very hard. Pollen grains of many species cause severe allergies which cause various diseases in human beings.

Q. 1. Which among the following is a major cause of
pollen allergy in India?
(A) *Mirabilis* **(B)** *Myosotis*
(C) *Parthenium* **(D)** *Pistia*

Q. 2. Select the odd one out with respect to wall layers of
microsporangium in flowering plants.
(A) Integument **(B)** Tapetum
(C) Endothecium **(D)** Middle layers

Q. 3. Study of pollen grains is called ..... .
(A) Bryology **(B)** Mycology
(C) Algology **(D)** Polynology

Q. 4. The prominent pollen grain aperture called germ
pore is present in :
(A) Exine **(B)** Intine
(C) Vegetative cell **(D)** Generative cell

Direction : In the following questions a statement
of Assertion (A) is followed by a statement of Reason (R). Mark the correct choice as :
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(C) Assertion (A) is true, but reason (R) is false.
(D) Assertion (A) is false, but reason (R) is true.

Q. 5. Assertion (A) : The innermost layer of microsporangium is called tapetum.
Reason (R) : Tapetum nourishes the develop into pollen grains.