Class-11th- Test

MORPHOLOGY OF FLOWERING PLANTS

M.M-35 **TIME-1.5 HR**

SECTION A

Multiple Choice Questions **[1X 10=10]**

1. What type of placentation is seen in sweet pea?
(a) Axile
(b) Free central
(c) Marginal
(d) Basal

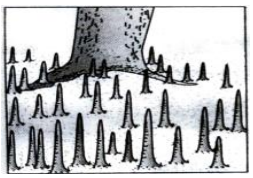
2. The coconut water and the edible part of coconut are equivalent to
(a) Endosperm
(b) Endocarp
(c) Mesocarp
(d) Embryo

3. The root is covered at the apex by a thimble-like structure called
(a) Region of maturation
(b) Root cap
(c) Region of meristematic activity
(d) Root hair

4.The main function(s) of the root system is/are
(A) Absorption of water and minerals
(B) Providing a proper anchorage to the plant parts
(C) Storing reserve food material and synthesis of plant growth regulators (PGRS)
(D) All of the above

5. Match the columns I, II and III, and choose the correct combination from the options given.

	Column I		**Column II**		**Column III**
a.		1.	Storage	K.	Pneumatophores

b.		2.	Respiration	L.	Prop root
c.		3.	Support	M.	Tap root
d.		4.	Fibrous root	N.	Adventitious root

(A) a-2-K, b-1-N, c-3-L, d-1-M
(B) a-3-L, b-1-M, c-2-K, d-1-N
(C) a-3-K, b-1-N, c-2-L, d-1-M
(D) a-3-L, b-2-M, c-1-K, d-2-N

6. Roots hairs develop from
(A) Region of maturation
(B) Zone of elongation
(C) Meristematic region
(D) Region of root cap

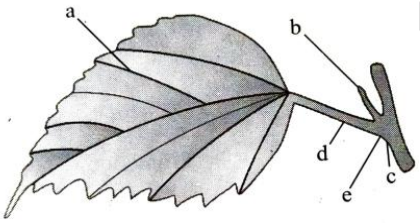
7. The stems and roots are differentiated as
(A) The stem is ascending part of the axis while root is descending.
(B) Stem develops from the plumule of the embryo while root from the radicle.
(C) The stem bears nodes and internodes which are absent in roots.
(D) All of the above

8. Match the columns I, II and III and choose the correct combination from the options given.

	Column I		Column II		Column III
a.	If a pair of leaves arise at each node and lie opposite to each other	1.	Alternate phyllotaxy	K.	Alstonia
b.	If more than two leaves arise at a node	2.	Opposite phyllotaxy	L.	China rose
c.	If a single leaf arise at each node	3.	Whorled phyllotaxy	M.	Guava

(A) a-1-L, b-3-M, c-2-K
(B) a-2-M, b-1-N, c-3-K
(C) a-3-K, b-2-L, c-1-M
(D) a-2-M, b-3-K, c-1-L

9. Recognise the figure and find out the correct matching.



(A) leaf base–c, petiole–d, lamina–a, stipule–b, axillary bud–e
(B) leaf base–e, petiole–b, lamina–a, stipule–d, axillary bud–c
(C) leaf base–a, petiole–b, lamina–c, stipule–d, axillary bud–e
(D) leaf base–e, petiole–d, lamina–a, stipule–b, axillary bud–c

10. Fill in the blanks:
a. Leaves originate from ...1... meristems and are arranged in an ...2... order.
b. Leaf develops at the node and bears as …3… in its axil.
c. The lamina or the …4... is the green expanded part of the leaf with veins and veinlets.
(A) 1-shoot apical, 2-acropetal, 3-bud, 4-leaf blade
(B) 1-intercalary, 2-acropetal, 3-leaflet, 4-leaf base
(C) 1-secondary, 2-basipetal, 3-bud, 4-leaf blade
(D) 1-shoot apical, 2-acropetal, 3-leaflet, 4-leaf blade

SECTION – B **[2X3= 6]**

11. Draw & explain the structure of tap root showing different regions.

12. Explain structure of leaf diagrammatically & also write the modification of leaf base.

13. Define inflorescence & also the types of inflorescence.

SECTION-C **[3X 3= 9]**

14. Explain the type of flower on the basis of position of calyx, corolla & androecium in respect of the ovary on thalamus.

15. Write about the free & united conditions found in Androecium with e.gs.

16. Draw the floral diagram of family Solanaceae & also write its floral formula.

SECTION-D **[5X1= 5]**

17. Define Aestivation. What are the different types of aestivation ? Support your answer with diagrams & e.gs.

CASE STUDY **[1X5= 5]**

18. The ovules after fertilisation, develop into seeds. A seed is made up of a seed coat and an embryo. The embryo is made up of a radicle, an embryonal axis and one (as in wheat, maize) or two cotyledons (as in gram and pea). Dicotyledonous Seed The outermost covering of a seed is the seed coat. The seed coat has two layers, the outer testa and the inner tegmen. The hilum is a scar on the seed coat through which the developing seeds were attached to the fruit. Above the hilum is a small pore called the micropyle. Within the seed coat is the embryo, consisting of an embryonal axis and two cotyledons. The cotyledons are often fleshy and full of reserve food materials. At the two ends of the embryonal axis are present the radicle and the plumule. In some seeds such as castor the endosperm formed as a result of double fertilisation, is a food storing tissue and called endospermic seeds. In plants such as bean, gram and pea, the endosperm is not present in mature seeds and such seeds are called non-endospermous.

Monocotyledonous seeds are endospermic but some as in orchids are non-endospermic. In the seeds of cereals such as maize the seed coat is membranous and generally fused with the fruit wall. The endosperm is bulky and stores food. The outer covering of endosperm separates the embryo by a proteinous layer called aleurone layer. The embryo is small and situated in a groove at one end of the endosperm. It consists of one large and shield shaped cotyledon known as scutellum and a short axis with a plumule and a radicle. The plumule and radicle are enclosed in sheaths which are called coleoptile and coleorhiza respectively.

1.) The scar on the seed coat through which the developing seeds were attached to the fruit, is termed as

a.) Hilum

b.) Micropyle

c.) Cotyledons

d.) Coleoptile

2.) Identify incorrect statement

Statement 1 – The embryo is made up of a radicle, an embryonal axis and cotyledons.

Statement 2 –Monocotyledonous seeds are endospermic but some are non-endospermic.

Statement 3 – The seed coat has two layers, the outer testa and the inner tegmen.

Statement 4 – The outermost covering of a seed is the hilum.

a.) Both 1 & 2

b.) Both 3 & 4

c.) Only 4

d.) None of the above

3.) Define seed? What are the type of seed?

4.) Write short note on seed coat?

5.) How are the seeds of monocot plant different from dicot plants?