Morphology of Flowering Plants

1. **Assertion (A):** Fibrous root system of wheat is a kind of adventitious root system.

   Reason (R): Fibrous root system arise from base of the stem.

   (1) Both (A) & (R) are true and the (R) is the correct explanation of the (A)

   (2) Both (A) & (R) are true but the (R) is not the correct explanation of the (A)

   (3) (A) is true but (R) is false

   (4) Both (A) and (R) are false

2. **Assertion (A):** Stems of maize and sugarcane have supporting roots.

   Reason (R): Fibrous root system of maize and sugarcane cannot anchor their large sized stem.

   (1) Both (A) & (R) are true and the (R) is the correct explanation of the (A)

   (2) Both (A) & (R) are true but the (R) is not the correct explanation of the (A)

   (3) (A) is true but (R) is false

   (4) Both (A) and (R) are false

3. **Assertion (A):** Main function of stem is spreading out branches bearing leaves, flowers, and fruits.

   Reason (R): Stem is differentiated into nodes and internodes.

   (1) Both (A) & (R) are true and the (R) is the correct explanation of the (A)

   (2) Both (A) & (R) are true but the (R) is not the correct explanation of the (A)

   (3) (A) is true but (R) is false

   (4) Both (A) and (R) are false

4. **Assertion (A):** In some plants of arid regions, stem becomes green, flat leaf like.

   Reason (R): In arid areas rate of transpiration is high, so plants develop various adaptations to minimize transpiration.

   (1) Both (A) & (R) are true and the (R) is the correct explanation of the (A)

   (2) Both (A) & (R) are true but the (R) is not the correct explanation of the (A)

   (3) (A) is true but (R) is false

   (4) Both (A) and (R) are false

5. **Assertion (A):** Leaves show acropetal arrangement on plant.

   Reason (R): Leaves arise from shoot apical meristem

   (1) Both (A) & (R) are true and the (R) is the correct explanation of the (A)

   (2) Both (A) & (R) are true but the (R) is not the correct explanation of the (A)

   (3) (A) is true but (R) is false

   (4) Both (A) and (R) are false

6. **Assertion (A):** Leaf veins helps only in transport of water, minerals and food material.

   Reason (R): Veins do not provide any kind of rigidity to the leaf blade.

   (1) Both (A) & (R) are true and the (R) is the correct explanation of the (A)

   (2) Both (A) & (R) are true but the (R) is not the correct explanation of the (A)

   (3) (A) is true but (R) is false

   (4) Both (A) and (R) are false

7. **Assertion (A):** In mustard leaves are compound.
Reason (R): In mustard leaf lamina shows incisions up to midrib.
(1) Both (A) & (R) are true and the (R) is the correct explanation of the (A)
(2) Both (A) & (R) are true but the (R) is not the correct explanation of the (A)
(3) (A) is true but (R) is false
(4) Both (A) and (R) are false

8. **Assertion (A):** In Calotropis and guava opposite phyllotaxy is found.
Reason (R): In Calotropis a pair of leaves arise on each node.
(1) Both (A) & (R) are true and the (R) is the correct explanation of the (A)
(2) Both (A) & (R) are true but the (R) is not the correct explanation of the (A)
(3) (A) is true but (R) is false
(4) Both (A) and (R) are false

9. **Assertion (A):** Flower is a modified shoot.
Reason (R): In flower vegetative shoot apical meristem changes to reproductive shoot apex floral meristem in which internodes do not elongate and the axis gets condensed.
(1) Both (A) & (R) are true and the (R) is the correct explanation of the (A)
(2) Both (A) & (R) are true but the (R) is not the correct explanation of the (A)
(3) (A) is true but (R) is false
(4) Both (A) and (R) are false

10. **Assertion (A):** Flower is the reproductive unit in the angiosperms.
Reason (R): It carries sex organs of plant.
(1) Both (A) & (R) are true and the (R) is the correct explanation of the (A)
(2) Both (A) & (R) are true but the (R) is not the correct explanation of the (A)
(3) (A) is true but (R) is false
(4) Both (A) and (R) are false

11. **Assertion (A):** Canna flowers are asymmetric.
Reason (R): Canna flowers cannot cut into two equal halves by any vertical plane passing through centre.
(1) Both (A) & (R) are true and the (R) is the correct explanation of the (A)
(2) Both (A) & (R) are true but the (R) is not the correct explanation of the (A)
(3) (A) is true but (R) is false
(4) Both (A) and (R) are false

12. **Assertion (A):** In Lily flowers epiphyllous stamens are present.
Reason (R): In Lily flowers stamens are attached to petals.
(1) Both (A) & (R) are true and the (R) is the correct explanation of the (A)
(2) Both (A) & (R) are true but the (R) is not the correct explanation of the (A)
(3) (A) is true but (R) is false
(4) Both (A) and (R) are false

13. **Assertion (A):** Axile placentation is more advanced than parietal placentation.
Reason (R): Axile placentation arises from parietal placentation by inward enlargement of ovary wall, that's why ovary become multilocular.
(1) Both (A) & (R) are true and the (R) is the correct explanation of the (A)
(2) Both (A) & (R) are true but the (R) is not the correct explanation of the (A)
(3) (A) is true but (R) is false
(4) Both (A) and (R) are false

14. **Assertion (A):** In dry fruits pericarp is not differentiated into epicarp, mesocarp and endocarp.
Reason (R): In dry fruits pericarp is thin and not fleshy.
(1) Both (A) & (R) are true and the (R) is the correct explanation of the (A)
(2) Both (A) & (R) are true but the (R) is not the correct explanation of the (A)
(3) (A) is true but (R) is false
(4) Both (A) and (R) are false

15. **Assertion (A):** Floral formula does not present complete description of flowering plants or family.
Reason (R): In floral formula there is no description about aestivation of calyx and corolla.
(1) Both (A) & (R) are true and the (R) is the correct explanation of the (A)
(2) Both (A) & (R) are true but the (R) is not the correct explanation of the (A)
(3) (A) is true but (R) is false
(4) Both (A) and (R) are false

16. **Assertion (A):** Papilionoideae is sub family of Asteraceae.
Reason (R): Papilionoideae is also called as sunflower family.
(1) Both (A) & (R) are true and the (R) is the correct explanation of the (A)
(2) Both (A) & (R) are true but the (R) is not the correct explanation of the (A)
(3) (A) is true but (R) is false
(4) Both (A) and (R) are false

17. **Assertion (A):** Fruit is caryopsis in Poaceae.
Reason (R): Placentation is parietal in Poaceae.
(1) Both (A) & (R) are true and the (R) is the correct explanation of the (A)
(2) Both (A) & (R) are true but the (R) is not the correct explanation of the (A)
(3) (A) is true but (R) is false
(4) Both (A) and (R) are false

18. **Assertion (A):** Inflorescence in Compositae is capitulum.
Reason (R): Compositae is dicot family.
(1) Both (A) & (R) are true and the (R) is the correct explanation of the (A)
(2) Both (A) & (R) are true but the (R) is not the correct explanation of the (A)
(3) (A) is true but (R) is false
(4) Both (A) and (R) are false

19. **Assertion (A):** Five fused sepals are found in Papilionoideae.
Reason (R): Odd sepal is posterior in Papilionoideae.
(1) Both (A) & (R) are true and the (R) is the correct explanation of the (A)
(2) Both (A) & (R) are true but the (R) is not the correct explanation of the (A)
(3) (A) is true but (R) is false
(4) Both (A) and (R) are false

20. **Assertion (A):** In parallel multicostate, convergent venation network is not formed.
Reason (R): In parallel multicostate convergent venation, veinlets arise from midrib.
(1) Both (A) & (R) are true and the (R) is the correct explanation of the (A)
(2) Both (A) & (R) are true but the (R) is not the correct explanation of the (A)
(3) (A) is true but (R) is false
(4) Both (A) and (R) are false

21. **Assertion (A):** The compositae fruits may be of sorosis type as in pineapple or synconus type as in banayan.
Reason (R): The edible part of sorosis is fleshy thalamus.
(1) Both (A) & (R) are true and the (R) is the correct explanation of the (A)
(2) Both (A) & (R) are true but the (R) is not the correct explanation of the (A)
(3) (A) is true but (R) is false
(4) Both (A) and (R) are false

22. **Assertion (A):** In dicot families generally tetramerous condition is found.

Reason (R): In Cruciferae family pentamerous condition is found.

(1) Both (A) & (R) are true and the (R) is the correct explanation of the (A)

(2) Both (A) & (R) are true but the (R) is not the correct explanation of the (A)

(3) (A) is true but (R) is false

(4) Both (A) and (R) are false

23. **Assertion (A):** Cotton fibres are false fibres.

Reason (R): Cotton belongs to Malvaceae family.

(1) Both (A) & (R) are true and the (R) is the correct explanation of the (A)

(2) Both (A) & (R) are true but the (R) is not the correct explanation of the (A)

(3) (A) is true but (R) is false

(4) Both (A) and (R) are false

24. **Assertion (A):** The lateral roots are endogenous in origin.

Reason (R): The lateral roots originates from pericycle of root.

(1) Both (A) & (R) are true and the (R) is the correct explanation of the (A)

(2) Both (A) & (R) are true but the (R) is not the correct explanation of the (A)

(3) (A) is true but (R) is false

(4) Both (A) and (R) are false

25. **Assertion (A):** A flower with staminode is best suited for pollinating the pistil in artificial hybridisation experiments in angiosperms.

Reason (R): Flowers with staminodes are unisexual and produce a large number of pollens.

(1) Both (A) & (R) are true and the (R) is the correct explanation of the (A)

(2) Both (A) & (R) are true but the (R) is not the correct explanation of the (A)

(3) (A) is true but (R) is false

(4) Both (A) and (R) are false

26. **Assertion (A):** Parthenocarpy is undesirable in nut crops, such as pistachio.

Reason (R): The seed is the edible part in nut crops.

(1) Both (A) & (R) are true and the (R) is the correct explanation of the (A)

(2) Both (A) & (R) are true but the (R) is not the correct explanation of the (A)

(3) (A) is true but (R) is false

(4) Both (A) and (R) are false

27. **Assertion (A):** In cymose type of inflorescence, the growth of the main axis is limited.

Reason (R): In cymose type of inflorescence, the main axis terminates in a flower.

(1) Both (A) & (R) are true and the (R) is the correct explanation of the (A)

(2) Both (A) & (R) are true but the (R) is not the correct explanation of the (A)

(3) (A) is true but (R) is false

(4) Both (A) and (R) are false

Directions: In the following questions, a statement of assertion is followed by a statement of reason. Mark the correct choice as:
(a) If both Assertion and Reason are true and Reason is the correct explanation of Assertion.
(b) If both Assertion and Reason are true but Reason is not the correct explanation of Assertion.
(c) If Assertion is true but Reason is false.
(d) If both Assertion and Reason are false.

28. **Assertion:** The leaf base is swollen in some leguminous plants.
Reason: The swollen leaf base is called pulvinus.

29. **Assertion:** Leaves of monocot plants generally possess reticulate venation.
Reason: Leaves of dicot plants generally possess parallel venation.

30. **Assertion:** In alternate type of phyllotaxy, the arrangement of leaves is such that a single leaf arises at each node in alternate manner.
Reason: The alternate type of phyllotaxy is seen in china rose and mustard plant.

31. **Assertion:** The cymose type of inflorescence has limited growth.
Reason: In cymose inflorescence, the main axis terminates in a flower.

32. **Assertion:** In imbricate aestivation, out of five petals, one is completely internal, one is completely external and in each of the remaining three petals, one margin is internal and the other is external.
Reason: Ascending imbricate aestivation is found in Cassia and gulmohur.

33. **Assertion:** The floral formula of family Solanaceae is

$$\oplus \, ♂ \, K_{(5)} \, \overset{\frown}{C_{(5)}} \, A_5 \, \underline{G}_{(2)}$$

Reason: This floral formula tells that flower is bisexual, sepals five, petals five, stamens five and gynoecium tricarpellary, trilocular with many ovules.

34. **Assertion:** Parietal placentation is the placentation in which the placenta forms a ridge along the ventral suture of ovary and ovules are borne on this ridge forming two rows.
Reason: The marginal placentation has ovules developed on the inner wall of the ovary or on peripheral part.

35. **Assertion :** Coconut tree is distributed in coastal areas over a large part of the world.
Reason : Coconut fruit can float and get dispersed over thousands of kilometers before losing viability.

36. **Assertion:** Fruit is the mature or ripened ovary developed after fertilisation.
Reason: Parthenocarpic fruit is formed without fertilisation of the ovary.

37. **Assertion:** Maize is an albuminous seed.
Reason: Endosperm is completely absorbed by its growing embryo.

38. **Assertion:** In fabaceae family, monocarpellary, unilocular ovary is present.
Reason: In fabaceae, placentation is parietal.

39. **Assertion:** Roots do not possess nodes but no leaves or buds.
Reason: Root branches arise endogenously.

40. **Assertion:** Momordica roots look like necklace.
Reason: Momordica possess moniliform roots.

41. **Assertion:** Assimilatory roots can photosynthesize.
Reason: Assimilatory roots possess chlorophyll.

ANSWER KEY																			
Que.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**
Ans.	2	1	2	1	1	4	4	1	1	1	1	3	1	1	1	4	3	2	3	3
Que.	**21**	**22**	**23**	**24**	**24**	**24**	**24**													
Ans.	3	4	2	1	4	1	1													

28.	29.	30.	31.	32.	33.	34.	35.	36.	37.	38.	39.	40.	41.			
b	d	a	b	a	b	b	d	a	a	b	c	b	d			