



Attempt questions first; check the separate key afterward. Use labelled diagrams where asked. Give scientific reasons; answer key covers closed questions.

A. Very short answers - 1 mark each

1. Name the root system typical of mustard.
2. Name the root system typical of wheat.
3. What is phyllotaxy?
4. Name the swollen basal part of a pistil.
5. What does an ovule usually become after fertilisation?
6. What does an ovary usually become after fertilisation?
7. Name the single cotyledon of a grass embryo.
8. Is potato a modified root?

B. Short answers / practice - 2 marks each

9. Compare tap, fibrous and adventitious roots.
10. Explain root regions and their functions with a sketch.
11. Distinguish a root from an underground stem.
12. Describe modifications of stems for storage, support and protection.
13. Compare simple and compound leaves.
14. Distinguish pinnately and palmately compound leaves.
15. Explain alternate, opposite and whorled phyllotaxy with examples.
16. Compare reticulate and parallel venation.
17. Differentiate racemose and cymose inflorescences.
18. Explain actinomorphic and zygomorphic flowers.
19. Compare hypogynous, perigynous and epigynous flowers.
20. Distinguish valvate, twisted, imbricate and vexillary aestivation.

C. Application / reasoning - 3 marks each

21. Name the placentation in pea.
22. Name the placentation in tomato.
23. Name the placentation in mustard.
24. Explain free-central and basal placentation with examples.
25. Distinguish apocarpous and syncarpous gynoecia.
26. Compare albuminous and non-albuminous seeds.
27. Describe the role of seed coat, hilum and micropyle.
28. Is a tomato fruit a berry or a capsule?
29. Explain how a maize grain differs from a typical bean seed.
30. State the chief floral features of Solanaceae.
31. Name two economically useful members of Solanaceae.

D. Extended practice - 5 marks each

32. Draw a labelled flower and explain each whorl's role.
33. Describe Solanaceae with floral formula, floral diagram and economic importance.
34. Draw and compare dicot and monocot seeds, labelling embryonal parts.
35. Explain five plant-organ modifications with their functions and suitable examples.

ANSWER KEY - Numerical / closed questions

- 1) Tap-root system. 2) Fibrous root system. 3) Arrangement of leaves on a stem/branch. 4) Ovary. 5) Seed. 6) Fruit. 7) Scutellum. 8) No; it is a stem tuber. 21) Marginal. 22) Axile. 23) Parietal. 28) Berry. 31) Examples: potato, tomato, brinjal, tobacco.