

# Multiple Choice Questions - Grades 10

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Multiple Choice Questions Grade Levels: 10 Number of Questions: 25

best answer for each question. Mark your answers clearly. Question 1 According to the textbook page, what type of inflorescence is characteristic of the family Fabaceae, as seen in the pea plant? A. Cymose B. Racemose C. Solitary D. Spikelet Question 2 The flower of *Pisum sativum* is described as 'zygomorphic'. What does this term mean? A. It can be divided into two equal halves through any vertical plane. B. It has no symmetry. C. It can be divided into two equal halves by only one specific vertical plane. D. It has radial symmetry. Question 3 In the floral formula for the pea plant,  $\frac{K(5) C_{1+2+(2)} A_{(9)+1} G_1$ , what does 'K(5)' represent? A. Sepals B. Five free petals C. Five fused petals D. Five fused sepals Question 4 The corolla of a pea flower is described as papilionaceous. Which part of this corolla is formed by two anterior petals that enclose the stamens and pistil? A. Standard B. Wings C. Keel D. Vexillum Question 5 The androecium of a pea flower is 'diadelphous'. What is the specific arrangement of stamens represented by  $A_{(9)+1}$ ? A. Ten stamens fused into a single bundle. B. Ten free stamens. C. Five stamens fused and five free. D. Nine stamens fused into one bundle and one stamen free. Question 6 What type of fruit is characteristic of the Fabaceae family? A. Berry B. Drupe C. Capsule D. Legume Question 7 Which of the following is a popular Indian pulse (dal) from the Fabaceae family mentioned in the text? A. Wheat B. Arhar C. Rice D. Millet Question 8 The seeds of the pea plant are described as 'non-endospermic'. This means that the food reserves for the embryo are stored in the: A. Endosperm B. Perisperm C. Cotyledons D. Seed coat Question 9 According to the text, which plant from the Fabaceae family is a source of a blue dye? A. Indigofera B. Sunhemp C. Lupin D. Mullathi Question 10 What does the symbol  $G_1$  in the floral formula signify about the gynoecium? A. Inferior ovary, bicarpellary B. Superior ovary, syncarpous C. Inferior ovary, apocarpous D. Superior ovary, monocarpellary Question 11 The family Solanaceae is commonly known as the: A. Pea family B. Potato family C. Grass family D. Lily family Question 12 Based on the floral diagram (f), what can be inferred about the aestivation (arrangement of sepals and petals) in the pea flower? A. Twisted B. Valvate C. Imbricate/Vexillary D. Quincuncial Question 13 Which of these plants from the Fabaceae family is used as a fodder crop? A. Soyabean B. Groundnut C. Trifolium D. Sweet pea Question 14 The plant 'Mullathi', mentioned under economic importance, is known for its use in: A. Fibre production B. Edible oil extraction C. Medicine D. Ornamental gardening Question 15 What does the floral formula notation  $C_{1+2+(2)}$  indicate about the corolla? A. There are 5 petals, all fused together. B. There are 3 large petals and 2 small ones. C. There is one large petal, two separate lateral petals, and two fused anterior petals. D. There are five petals arranged in two whorls. Question 16 The handwritten note mentions that Solanaceae is a 'pentamerous' family. What does this suggest about its flowers? A. The floral parts are in multiples of three. B. The floral parts are in multiples of four. C. The floral parts are in multiples of five. D. The flowers are incomplete. Question 17 Which of the following plant characteristics is NOT associated with the Fabaceae family as per the text? A. Superior ovary B. Diadelphous stamens C. Actinomorphic flower D. Legume fruit Question 18 Based on the handwritten list, which of the following is a monocot plant? A. Gram (chana) B. Soyabean C. Sugarcane D. Pea Question 19 In Figure 5.21, image (e) shows a longitudinal section (L.S.) of the carpel. What does this reveal about the ovule arrangement? A. Axile placentation B. Parietal placentation C. Basal placentation D. Marginal placentation Question 20 Soyabean and groundnut are economically important members of Fabaceae because they are major sources of: A. Fibre B. Dye C. Edible oil D. Medicine Question 21 The term 'gamosepalous' used to describe the calyx of a pea flower means that the sepals are: A. Free from each other B. United or fused C. Arranged in a spiral D. Absent Question 22 According to the text, the family Solanaceae is predominantly found in which geographical regions? A. Only in temperate zones B. Only in tropical rainforests C. In tropics, subtropics, and temperate zones D. Only in arid and semi-arid regions Question 23 A botanist discovers a new plant with zygomorphic flowers, a monocarpellary gynoecium, and diadelphous stamens. Based on these characters from the text, which family would be the first to consider for its classification? A. Solanaceae B. Brassicaceae C. Liliaceae D. Fabaceae Question 24 The gynoecium of the pea plant is described as unilocular. What does this mean? A. The ovary has a single chamber. B. The ovary has multiple chambers. C. The ovary contains a single ovule. D. The flower has a single carpel. Question 25 Comparing the two families mentioned, which feature distinguishes Fabaceae from Solanaceae based on the floral formula and notes? A. Presence of a superior ovary B. Zygomorphic symmetry in Fabaceae vs. typically actinomorphic (pentamerous) in Solanaceae C. Both have ten stamens D. Both are sources of pulses