

Multiple Choice Questions - Grades 10

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Ø=ÜÜ Multiple Choice Questions Grade Levels: 10 Number of Questions: 17

best answer for each question. Mark your answers clearly. Question 1 In the provided diagram of *Pisum sativum*, what do the structures labelled (c) represent?A. The complete flowerB. The separated petals showing a papilionaceous corollaC. The androecium and gynoeciumD. The sepals forming the calyx Question 2 The term 'papilionaceous corolla', a key feature of the Fabaceae family, describes which of the following?A. A corolla where all petals are fused into a tube.B. A butterfly-shaped corolla with a large standard, two wings, and a keel.C. A corolla with five identical, free petals.D. A corolla that is bell-shaped. Question 3 According to the text, the androecium in *Pisum sativum* is 'diadelphous'. What does this term mean?A. Ten stamens are fused into a single bundle.B. There are five stamens.C. The stamens are arranged in two bundles, typically one of nine fused stamens and one free stamen.D. The stamens are attached to the petals. Question 4 The floral formula for Fabaceae is given as $K(5) C 1+2+(2) A(9)-$. The '%' at the beginning signify?A. The flower is actinomorphic (radially symmetrical).B. The flower is zygomorphic (bilaterally symmetrical).C. The flower is unisexual.D. The plant is a perennial. Question 5 In the floral formula for the pea plant, the androecium is represented as A(9)+1. What does this notation indicate?A. Ten stamens in a single group.B. Nine stamens attached to one petal, and one free.C. The diadelphous condition with nine stamens fused and one stamen free.D. Nine fertile stamens and one sterile staminode. Question 6 The text describes the gynoecium of the pea flower as 'monocarpellary'. What does this imply?A. The ovary is formed from a single carpel.B. The ovary has many chambers or locules.C. The ovary is fused with the stamens.D. The ovary is inferior. Question 7 Which of the following plants, crucial in the Indian diet, belongs to the family Fabaceae described in the text?A. WheatB. Arhar (pigeon pea)C. RiceD. Potato Question 8 *Indigofera*, mentioned under economic importance, is a plant from the Fabaceae family historically known for producing what?A. A valuable blue dye.B. High-protein fodder for cattle.C. Edible oil like groundnut oil.D. Strong fibres for making ropes. Question 9 The fruit of the pea plant is a legume. Based on the description of the gynoecium, what is a defining feature of this fruit type?A. It develops from a multi-carpellary, syncarpous ovary.B. It is a fleshy fruit with a hard inner stone.C. It develops from a superior, monocarpellary ovary.D. It contains only a single, endospermic seed. Question 10 The aestivation of the corolla in Fabaceae is described as 'vexillary'. Which statement correctly describes this arrangement?A. Petals in a whorl just touch one another at the margin without overlapping.B. One margin of each petal overlaps the next one in a specific direction.C. The largest petal (standard) overlaps the two lateral petals (wings), which then overlap the two smallest, fused petals (keel).D. Petals overlap one another but not in any particular direction. Question 11 The seeds of the Fabaceae family are described as 'non-endospermic'. What does this imply about the seed's structure?A. The seeds lack a protective seed coat.B. The endosperm tissue is never formed after fertilization.C. The food reserves are stored in the large cotyledons, not in a separate endosperm tissue.D. The seeds are incapable of germination. Question 12 *Mullathi*, the common Indian name for a plant mentioned for its medicinal properties, is scientifically known as *Glycyrrhiza glabra*. It belongs to the Fabaceae family and is valued for its...A. Sweet-tasting roots used in traditional medicine and confectionery.B. Colourful flowers used as ornamentals.C. Protein-rich seeds used as a pulse.D. Strong stem fibres. Question 13 The handwritten note on the page correctly identifies the Solanaceae (potato family) as being typically what kind of flower?A. Tetramerous (floral parts in fours)B. Trimerous (floral parts in threes)C. Pentamerous (floral parts in fives)D. Dimerous (floral parts in twos) Question 14 Looking at the floral formula, the notation G1 indicates that the gynoecium is monocarpellary. What does the line drawn underneath the 'G' signify?A. The ovary is inferior.B. The ovary is half-inferior.C. The ovary is superior.D. The carpel is fused. Question 15 The text introduces Solanaceae as a family of 'mostly herbs, shrubs and rarely small trees'. Based on this, which plant habit is least characteristic of the Solanaceae family?A. A small herbaceous plant like a tomato.B. A large forest canopy tree.C. A woody shrub like a chilli plant.D. An erect, branched herb like a potato plant. Question 16 The inflorescence in the pea plant is described as 'racemose'. What is the key characteristic of a racemose inflorescence?A. The main axis terminates in a flower, so growth is limited.B. The flowers are arranged with older ones at the top and younger ones at the bottom.C. The main axis has indeterminate growth with flowers developing from bottom to top.D. All the flowers arise from a single point, forming an umbel. Question 17 The handwritten notes list several monocots like rice, wheat, and bamboo. How do these plants fundamentally differ from the pea plant (a dicot)