

i.

1 Q: What is the title of Chapter 5? A: Morphology of Flowering Plants.

2 Q: What fascinates us about higher plants? A: The wide range in the structure of higher plants.

3 Q: What shows large diversity in external structure? A: Angiosperms.

4 Q: What is morphology? A: External structure of plants.

5 Q: What characterises all angiosperms? A: Presence of roots, stems, leaves, flowers and fruits.

6 Q: On what basis was classification of plants discussed in chapters 2 and 3? A: Morphological and other characteristics.

7 Q: What is needed for successful classification of higher plants? A: Standard technical terms and standard definitions.

8 Q: What is needed to understand any higher plant or living organism? A: Standard technical terms and standard definitions.

9 Q: What variations exist in plant parts? A: Possible variations found as adaptations to their environment.

10 Q: Name examples of plant adaptations? A: Adaptations to various habitats, for protection, climbing, storage etc.

11 Q: What do you see when you pull out any weed? A: All weeds have roots, stems and leaves.

12 Q: What may weeds bear? A: Flowers and fruits.

13 Q: What is the underground part of a flowering plant? A: The root system.

14 Q: What forms the shoot system? A: The portion above the ground.

15 Q: What is shown in Figure 5.1? A: Parts of a flowering plant.

16 Q: What section follows the introduction? A: 5.1 The Root.

17 Q: In majority of dicotyledonous plants, what forms from radicle elongation? A: Primary root.

18 Q: Where does the primary root grow? A: Inside the soil.

19 Q: What do primary roots bear? A: Lateral roots of several orders.

20 Q: What are lateral roots of several orders called? A: Secondary, tertiary etc. roots.

21 Q: What constitutes the tap root system? A: The primary roots and its branches.

22 Q: In which plant is tap root system seen? A: Mustard plant.

- 23 Q: What is shown in Figure 5.2a? A: Tap root system.
- 24 Q: In monocotyledonous plants, what happens to the primary root? A: It is short lived.
- 25 Q: What replaces the primary root in monocots? A: A large number of roots.
- 26 Q: From where do monocot roots originate? A: From the base of the stem.
- 27 Q: What is the root system called in wheat plant? A: Fibrous root system.
- 28 Q: What is shown in Figure 5.2b? A: Fibrous root system.
- 29 Q: In which plants do roots arise from parts other than the radicle? A: Grass, Monstera and banyan tree.
- 30 Q: What are roots arising from non-radicle parts called? A: Adventitious roots.
- 31 Q: What is shown in Figure 5.2c? A: Adventitious roots.
- 32 Q: What is the main function of root system? A: Absorption of water and minerals from the soil.
- 33 Q: What anchorage does root system provide? A: Proper anchorage to the plant parts.
- 34 Q: What else does root system do? A: Storing reserve food material.
- 35 Q: What synthesis does root system perform? A: Synthesis of plant growth regulators.
- 36 Q: What is labelled as Flower in Figure 5.1? A: The top reproductive part.
- 37 Q: What is labelled as Fruit in Figure 5.1? A: The structure below flowers.
- 38 Q: What is labelled as Stem in Figure 5.1? A: The main axis above ground.
- 39 Q: What is labelled as Leaf in Figure 5.1? A: Green photosynthetic parts.
- 40 Q: What is labelled as Node in Figure 5.1? A: The point where leaf attaches.
- 41 Q: What is labelled as Internode in Figure 5.1? A: The gap between nodes.
- 42 Q: What is labelled as Bud in Figure 5.1? A: Developing shoot structure.
- 43 Q: What is labelled as Primary root in Figure 5.1? A: The main descending root.
- 44 Q: What is labelled as Secondary root in Figure 5.1? A: Branches from primary root.
- 45 Q: What two main systems are shown in Figure 5.1? A: Shoot system and Root system.
- 46 Q: What type of roots are shown in Figure 5.2(a)? A: Tap root with main root and laterals.
- 47 Q: What type of roots are shown in Figure 5.2(b)? A: Fibrous roots.

48 Q: What type of roots are shown in Figure 5.2(c)? A: Adventitious roots.

49 Q: What is the main root also called? A: Primary root.

50 Q: What are branches of main root called? A: Laterals.

51 Q: In dicots, what is the tap root system example? A: Mustard plant.

52 Q: In monocots, what replaces short-lived primary root? A: Fibrous root system.

53 Q: Which plant shows fibrous root system? A: Wheat plant.

54 Q: Name three examples of adventitious roots plants? A: Grass, Monstera, banyan tree.

55 Q: What absorbs water and minerals? A: Root system.

56 Q: What stores reserve food? A: Root system.

57 Q: What synthesises growth regulators? A: Root system.

58 Q: What is the page number shown? A: 58.

59 Q: What book subject is on the top? A: Biology.

60 Q: What is the first listed section? A: 5.1 The Root.

61 Q: What is the second listed section? A: 5.2 The Stem.

62 Q: What is the third listed section? A: 5.3 The Leaf.

63 Q: What is the fourth listed section? A: 5.4 The Inflorescence.

64 Q: What is the fifth listed section? A: 5.5 The Flower.

65 Q: What is the sixth listed section? A: 5.6 The Fruit.

66 Q: What is the seventh listed section? A: 5.7 The Seed.

67 Q: What is the eighth listed section? A: 5.8 Semi-technical Description of a Typical Flowering Plant.

68 Q: What is the ninth listed section? A: 5.9 Description of Some Important Families.

69 Q: What is the QR code number? A: 11080CH05.

70 Q: What system is underground? A: Root system.

71 Q: What system is above ground? A: Shoot system.

72 Q: In dicots, what elongates directly from radicle? A: Primary root.

- 73 Q: What grows inside the soil? A: Primary root.
- 74 Q: What are secondary roots? A: Lateral roots of several orders.
- 75 Q: What are tertiary roots? A: Further branches from secondary roots.
- 76 Q: What is tap root system? A: Primary roots and its branches.
- 77 Q: In monocots, what is short lived? A: Primary root.
- 78 Q: What originates from base of stem in monocots? A: A large number of roots.
- 79 Q: What constitutes fibrous root system? A: Roots from base of stem.
- 80 Q: What plant shows fibrous root system? A: Wheat plant.
- 81 Q: What are adventitious roots? A: Roots arising from parts other than radicle.
- 82 Q: Which tree has adventitious roots? A: Banyan tree.
- 83 Q: Which plant has adventitious roots? A: Monstera.
- 84 Q: Which grass has adventitious roots? A: Grass.
- 85 Q: What provides proper anchorage? A: Root system.
- 86 Q: What is reserve food material stored in? A: Root system.
- 87 Q: What is synthesised by root system? A: Plant growth regulators.
- 88 Q: What is Figure 5.1 about? A: Parts of a flowering plant.
- 89 Q: What is labelled as Shoot system in Figure 5.1? A: Flower, fruit, stem, leaf, node, internode, bud.
- 90 Q: What is labelled as Root system in Figure 5.1? A: Primary root and secondary root.
- 91 Q: What is the main root in tap root diagram? A: Primary root with laterals.
- 92 Q: What is shown in fibrous roots photo? A: Cluster of thin roots.
- 93 Q: What is shown in adventitious roots photo? A: Roots arising from stem parts.
- 94 Q: What fascinates about higher plants? A: Wide range in structure.
- 95 Q: What diversity do angiosperms show? A: Large diversity in external structure.
- 96 Q: What are all angiosperms characterised by? A: Roots, stems, leaves, flowers and fruits.
- 97 Q: What chapters discussed plant classification? A: Chapters 2 and 3.
- 98 Q: What is needed for understanding higher plants? A: Standard technical terms and

definitions.

99 Q: What are adaptations of plants to environment? A: Variations in different parts for habitats, protection, climbing, storage.

100 Q: What example shows all weeds have same parts? A: Pulling out any weed reveals roots, stems, leaves, flowers and fruits.

101 Q: What is the root system? A: Underground part of flowering plant.

102 Q: What is the shoot system? A: Portion above the ground.

103 Q: What leads to primary root formation? A: Direct elongation of the radicle in dicots.

104 Q: What bears lateral roots? A: Primary root.

105 Q: What is mustard plant example of? A: Tap root system.

106 Q: What replaces primary root in monocots? A: Large number of roots from stem base.

107 Q: What is wheat plant example of? A: Fibrous root system.

108 Q: What is grass example of? A: Adventitious roots.

109 Q: What is banyan tree example of? A: Adventitious roots.

110 Q: What is Monstera example of? A: Adventitious roots.

111 Q: What absorbs water and minerals? A: Root system from soil.

112 Q: What anchors the plant? A: Root system.

113 Q: What stores food in roots? A: Reserve food material.

114 Q: What regulates growth via roots? A: Synthesis of plant growth regulators.

115 Q: What is the QR code for? A: Chapter 5 content access.

116 Q: What is page 58 about? A: Parts of flowering plant and root types.

117 Q: What is the subject header? A: Biology.

118 Q: What is the chapter number? A: Chapter 5.

119 Q: What is the main topic? A: Morphology of Flowering Plants.

120 Q: What is the first sub-topic? A: The Root.

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1 Q: On what basis are flowers classified as hypogynous, perigynous and epigynous? A: Position of calyx, corolla and androecium with respect to the ovary on thalamus.

2 Q: In which type of flower does gynoecium occupy the highest position? A: Hypogynous.

3 Q: What is the position of ovary in hypogynous flowers? A: Superior.

4 Q: Name three examples of hypogynous flowers. A: Mustard, china rose and brinjal.

5 Q: In perigynous flowers, where is gynoecium situated? A: In the centre.

6 Q: What is the position of ovary in perigynous flowers? A: Half inferior.

7 Q: Name three examples of perigynous flowers. A: Plum, rose and peach.

8 Q: In epigynous flowers, what happens to the margin of thalamus? A: It grows upward enclosing the ovary completely.

9 Q: What is the position of ovary in epigynous flowers? A: Inferior.

10 Q: Name examples of epigynous flowers. A: Guava, cucumber and ray florets of sunflower.

11 Q: How many floral whorls does each flower normally have? A: Four.

12 Q: What are the four floral whorls? A: Calyx, corolla, androecium and gynoecium.

13 Q: What is shown in Figure 5.10? A: Parts of a flower.

14 Q: What is the outermost whorl of a flower? A: Calyx.

15 Q: What are the members of calyx called? A: Sepals.

16 Q: What is the usual colour and shape of sepals? A: Green and leaf-like.

17 Q: What is the function of calyx? A: Protects the flower in the bud stage.

18 Q: What is gamosepalous calyx? A: Sepals united.

19 Q: What is polysepalous calyx? A: Sepals free.

20 Q: What is corolla composed of? A: Petals.

21 Q: What is the function of petals? A: Attract insects for pollination.

22 Q: What is gamopetalous corolla? A: Petals united.

23 Q: What is polypetalous corolla? A: Petals free.

24 Q: What shapes can corolla have? A: Tubular, bell-shaped, funnel-shaped or wheel-shaped.

- 25 Q: What is aestivation? A: Mode of arrangement of sepals or petals in floral bud.
- 26 Q: What are the main types of aestivation? A: Valvate, twisted, imbricate and vexillary.
- 27 Q: What is valvate aestivation? A: Sepals or petals just touch one another at the margin without overlapping.
- 28 Q: Which plant shows valvate aestivation? A: Calotropis.
- 29 Q: What is twisted aestivation? A: One margin of appendage overlaps the next one.
- 30 Q: Which plants show twisted aestivation? A: China rose, lady's finger and cotton.
- 31 Q: What is imbricate aestivation? A: Margins overlap one another but not in any particular direction.
- 32 Q: Which plants show imbricate aestivation? A: Cassia and gulmohur.
- 33 Q: What is vexillary or papilionaceous aestivation? A: Largest petal overlaps two lateral petals which overlap two smallest anterior petals.
- 34 Q: Which plants show vexillary aestivation? A: Pea and bean flowers.
- 35 Q: What is androecium composed of? A: Stamens.
- 36 Q: What does each stamen consist of? A: A stalk or filament and an anther.
- 37 Q: How many lobes does an anther usually have? A: Bilobed.
- 38 Q: What does each lobe of anther contain? A: Two chambers called pollen-sacs.
- 39 Q: What are produced in pollen-sacs? A: Pollen grains.
- 40 Q: What is a sterile stamen called? A: Staminode.
- 41 Q: What are epipetalous stamens? A: Stamens attached to petals.
- 42 Q: Which plant shows epipetalous stamens? A: Brinjal.
- 43 Q: What are epiphyllous stamens? A: Stamens attached to perianth.
- 44 Q: Which plant shows epiphyllous stamens? A: Lily.
- 45 Q: What is polyandrous condition? A: Stamens remain free.
- 46 Q: What is monadelphous condition? A: Stamens united into one bundle.
- 47 Q: Which plant shows monadelphous stamens? A: China rose.
- 48 Q: What is diadelphous condition? A: Stamens united into two bundles.
- 49 Q: Which plant shows diadelphous stamens? A: Pea.

50 Q: What is polyadelphous condition? A: Stamens united into more than two bundles.

51 Q: Which plant shows polyadelphous stamens? A: Citrus.

52 Q: What varies in length within a flower? A: Filaments.

53 Q: Name plants showing variation in filament length. A: Salvia and mustard.

54 Q: In hypogynous flowers, ovary is said to be? A: Superior.

55 Q: In perigynous flowers, ovary is said to be? A: Half inferior.

56 Q: In epigynous flowers, ovary is said to be? A: Inferior.

57 Q: Which flower has superior ovary example? A: Mustard.

58 Q: Which flower has half inferior ovary example? A: Plum.

59 Q: Which flower has inferior ovary example? A: Guava.

60 Q: What protects the flower in bud stage? A: Calyx (sepals).

61 Q: What attracts insects for pollination? A: Corolla (petals).

62 Q: What is the mode of arrangement of sepals/petals in bud called? A: Aestivation.

63 Q: Which aestivation type has no overlapping? A: Valvate.

64 Q: Which aestivation type has one margin overlapping next? A: Twisted.

65 Q: Which aestivation type has irregular overlapping? A: Imbricate.

66 Q: Which aestivation type is also called papilionaceous? A: Vexillary.

67 Q: What is the male reproductive organ? A: Androecium.

68 Q: What are the two parts of a stamen? A: Filament and anther.

69 Q: What is bilobed anther? A: Anther with two lobes.

70 Q: Where are pollen grains produced? A: Pollen-sacs in anther.

71 Q: What is a staminode? A: Sterile stamen.

72 Q: What are stamens attached to petals called? A: Epipetalous.

73 Q: What are stamens attached to perianth called? A: Epiphyllous.

74 Q: What is free stamens condition? A: Polyandrous.

75 Q: What is one bundle of stamens? A: Monadelphous.

76 Q: What is two bundles of stamens? A: Diadelphous.

77 Q: What is more than two bundles? A: Polyadelphous.

78 Q: What is Figure 5.10? A: Parts of a flower.

79 Q: What is Figure 5.11? A: Types of aestivation in corolla.

80 Q: Which figure shows valvate aestivation? A: (a) in Figure 5.11.

81 Q: Which figure shows twisted aestivation? A: (b) in Figure 5.11.

82 Q: Which figure shows imbricate aestivation? A: (c) in Figure 5.11.

83 Q: Which figure shows vexillary aestivation? A: (d) in Figure 5.11.

84 Q: Which flower has superior ovary example? A: Brinjal.

85 Q: Which flower has half inferior ovary example? A: Rose.

86 Q: Which flower has inferior ovary example? A: Cucumber.

87 Q: What are sepals? A: Members of calyx.

88 Q: What are petals? A: Members of corolla.

89 Q: What is gamopetalous? A: United petals or sepals.

90 Q: What is polypetalous? A: Free petals.

91 Q: What is polysepalous? A: Free sepals.

92 Q: What is gamosepalous? A: United sepals.

93 Q: What colours are petals usually? A: Brightly coloured.

94 Q: What is the function of brightly coloured petals? A: To attract insects.

95 Q: What varies in corolla? A: Shape and colour.

96 Q: Name shapes of corolla. A: Tubular, bell-shaped, funnel-shaped, wheel-shaped.

97 Q: In which plant is valvate aestivation seen? A: Calotropis.

98 Q: In which plant is twisted aestivation seen? A: China rose.

99 Q: In which plant is imbricate aestivation seen? A: Cassia.

100 Q: In which plant is vexillary aestivation seen? A: Pea.

101 Q: What represents male reproductive organ? A: Stamen.

- 102 Q: What is the stalk of stamen? A: Filament.
- 103 Q: What is the swollen part of stamen? A: Anther.
- 104 Q: How many pollen-sacs in each anther lobe? A: Two.
- 105 Q: What is produced in pollen-sacs? A: Pollen grains.
- 106 Q: Which plant has epipetalous stamens? A: Brinjal.
- 107 Q: Which plant has epiphyllous stamens? A: Lily.
- 108 Q: Which plant shows monadelphous stamens? A: China rose.
- 109 Q: Which plant shows diadelphous stamens? A: Pea.
- 110 Q: Which plant shows polyadelphous stamens? A: Citrus.
- 111 Q: What are stamens with united filaments called? A: Adelphous.
- 112 Q: What varies in Salvia and mustard? A: Length of filaments.
- 113 Q: What is perigynous condition? A: Ovary half inferior.
- 114 Q: What is epigynous condition? A: Ovary inferior.
- 115 Q: What protects flower bud? A: Sepals (calyx).
- 116 Q: What attracts pollinators? A: Petals (corolla).
- 117 Q: What is valvate type? A: Margins just touch.
- 118 Q: What is twisted type? A: One margin overlaps next.
- 119 Q: What is imbricate type? A: Overlapping without fixed direction.
- 120 Q: What is vexillary type? A: Standard overlaps wings which overlap keel.

1.

1 Q: What is the seed coat in monocot seeds? A: Membranous and generally fused with the fruit wall.

2 Q: What is bulky and stores food in monocot seed? A: Endosperm.

3 Q: What separates embryo from endosperm in monocot seed? A: Outer covering of endosperm.

4 Q: What protein-rich layer covers endosperm? A: Aleurone layer.

5 Q: Where is embryo located in monocot seed? A: In a groove at one end of endosperm.

6 Q: What is the single cotyledon in monocot embryo called? A: Scutellum.

7 Q: What shape is scutellum? A: Large and shield shaped.

8 Q: What short axis is attached to scutellum? A: Axis with plumule and radicle.

9 Q: What sheath encloses plumule? A: Coleoptile.

10 Q: What sheath encloses radicle? A: Coleorhiza.

11 Q: What is shown in Figure 5.15? A: Structure of a monocotyledonous seed.

12 Q: What is used to describe a flowering plant? A: Various morphological features.

13 Q: How must plant description be? A: Brief, simple, scientific language in proper sequence.

14 Q: With what does plant description begin? A: Its habit.

15 Q: What follows habit in description? A: Vegetative characters (roots, stem, leaves).

16 Q: What follows vegetative characters? A: Floral characters (inflorescence and flower parts).

17 Q: What is presented after plant parts? A: Floral diagram and floral formula.

18 Q: What does floral formula use? A: Some symbols.

19 Q: What does Br stand for in floral formula? A: Bracteate.

20 Q: What does K stand for? A: Calyx.

21 Q: What does C stand for? A: Corolla.

22 Q: What does P stand for? A: Perianth.

23 Q: What does A stand for? A: Androecium.

24 Q: What does G stand for? A: Gynoecium.

- 25 Q: What does G with superscript indicate? A: Superior ovary.
- 26 Q: What does G with line below indicate? A: Inferior ovary.
- 27 Q: What does ♂ stand for? A: Male.
- 28 Q: What does ♀ stand for? A: Female.
- 29 Q: What does ♂ ♀ stand for? A: Bisexual plants.
- 30 Q: What does ⚥ stand for? A: Actinomorphic.
- 31 Q: What does % stand for? A: Zygomorphic.
- 32 Q: How is fusion shown in floral formula? A: Figure within bracket.
- 33 Q: How is adhesion shown? A: Line drawn above symbols.
- 34 Q: What does floral diagram show? A: Arrangement and relation of floral parts.
- 35 Q: What shows mother axis position? A: Dot on top of floral diagram.
- 36 Q: What is drawn in successive whorls? A: Calyx, corolla, androecium and gynoecium.
- 37 Q: What does floral diagram show for mustard? A: Family Brassicaceae.
- 38 Q: What is 5.9 section title? A: Solanaceae.
- 39 Q: What is Solanaceae commonly called? A: Potato family.
- 40 Q: Where is Solanaceae widely distributed? A: Tropics, subtropics and temperate zones.
- 41 Q: What is shown in Figure 5.17? A: Solanum nigrum (makoi) plant.
- 42 Q: What are vegetative characters of Solanaceae? A: Mostly herbs, shrubs and rarely small trees.
- 43 Q: What type of stem in Solanaceae? A: Herbaceous rarely woody, aerial, erect, cylindrical, branched, solid or hollow, hairy or glabrous.
- 44 Q: What is underground stem in potato? A: Tuberous (Solanum tuberosum).
- 45 Q: What type of leaves in Solanaceae? A: Alternate, simple, rarely pinnately compound, exstipulate.
- 46 Q: What venation in Solanaceae leaves? A: Reticulate.
- 47 Q: What is inflorescence in Solanaceae? A: Solitary, axillary or cymose as in Solanum.
- 48 Q: What type of flower in Solanaceae? A: Bisexual, actinomorphic.
- 49 Q: How many sepals in Solanaceae calyx? A: Five, united, persistent, valvate aestivation.

- 50 Q: How many petals in Solanaceae corolla? A: Five, united, valvate aestivation.
- 51 Q: How many stamens in Solanaceae androecium? A: Five, epipetalous.
- 52 Q: What type of gynoecium in Solanaceae? A: Bicarpellary, obliquely placed, syncarpous, ovary superior, bilocular, placenta swollen with many ovules, axile.
- 53 Q: What type of fruit in Solanaceae? A: Berry or capsule.
- 54 Q: What type of seeds in Solanaceae? A: Many, endospermous.
- 55 Q: What is floral formula of Solanaceae? A: $\frac{\infty}{5} \frac{\infty}{5} K(5) C(5) A5 G(2)$.
- 56 Q: What is economic importance of Solanaceae? A: Source of food (tomato, brinjal, potato), spice (chilli).
- 57 Q: What medicinal plants in Solanaceae? A: Belladonna, ashwagandha.
- 58 Q: What fumigatory plant in Solanaceae? A: Tobacco.
- 59 Q: What ornamental in Solanaceae? A: Petunia.
- 60 Q: What is shown in Figure 5.17(a)? A: Flowering twig of *Solanum nigrum*.
- 61 Q: What is shown in Figure 5.17(b)? A: Flower.
- 62 Q: What is shown in Figure 5.17(c)? A: L.S. of flower.
- 63 Q: What is shown in Figure 5.17(d)? A: Stamens.
- 64 Q: What is shown in Figure 5.17(e)? A: Carpel.
- 65 Q: What is shown in Figure 5.17(f)? A: Floral diagram.
- 66 Q: What do flowering plants exhibit? A: Enormous variation in shape, size, structure, mode of nutrition, life span, habit and habitat.
- 67 Q: What well-developed systems do flowering plants have? A: Root and shoot systems.
- 68 Q: What type of root system in dicotyledonous plants? A: Tap roots.
- 69 Q: What type of root system in monocotyledonous plants? A: Fibrous roots.
- 70 Q: What modifications do some roots have? A: For storage of food, mechanical support and respiration.
- 71 Q: What is shoot system differentiated into? A: Stem, leaves, flowers and fruits.
- 72 Q: What features differentiate stems from roots? A: Presence of nodes and internodes, multicellular hair.

- 73 Q: What is leaf? A: Lateral outgrowth of stem developed exogenously at node.
- 74 Q: What is phototropic nature of leaf? A: Helps differentiate stems from roots.
- 75 Q: What colour are leaves? A: Green to perform photosynthesis.
- 76 Q: What variations do leaves show? A: In shape, size, margin, apex and extent of incisions of leaf blade (lamina).
- 77 Q: What is flower? A: Modified shoot meant for sexual reproduction.
- 78 Q: What variations do flowers exhibit? A: Enormous variation in structure, symmetry, position of ovary.
- 79 Q: What relation do flowers have? A: To other parts, arrangement of petals, sepals, ovules etc.
- 80 Q: What develops after fertilisation? A: Ovary into fruits and ovules into seeds.
- 81 Q: What variations do seeds show? A: In shape, size and period of viability.
- 82 Q: What is basis of classification? A: Floral characteristics.
- 83 Q: What is seed coat in monocot? A: Membranous and fused with fruit wall.
- 84 Q: What stores food in monocot seed? A: Bulky endosperm.
- 85 Q: What separates embryo in monocot seed? A: Aleurone layer.
- 86 Q: What is scutellum? A: Large shield shaped cotyledon.
- 87 Q: What encloses plumule and radicle? A: Coleoptile and coleorhiza sheaths.
- 88 Q: What is semi-technical description? A: Brief scientific description in proper sequence.
- 89 Q: What symbols are used in floral formula? A: Br, K, C, P, A, G, ∞ ∞ ∞ %.
- 90 Q: What family is potato family? A: Solanaceae.
- 91 Q: What are vegetative characters of Solanaceae? A: Herbs, shrubs, stem erect branched, leaves alternate simple.
- 92 Q: What is inflorescence in Solanaceae? A: Solitary, axillary or cymose.
- 93 Q: What is gynoecium in Solanaceae? A: Bicarpellary, syncarpous, superior ovary, axile placentation.
- 94 Q: What is fruit in Solanaceae? A: Berry or capsule.
- 95 Q: What economic products from Solanaceae? A: Tomato, potato, chilli, tobacco, petunia.
- 96 Q: What is floral formula of Solanaceae? A: ∞ ∞ ∞ K(5) C(5) A5 G(2).

- 97 Q: What is root system in dicots? A: Tap root.
- 98 Q: What is root system in monocots? A: Fibrous root.
- 99 Q: What is leaf function? A: Photosynthesis.
- 100 Q: What is flower for? A: Sexual reproduction.
- 101 Q: What develops into fruit? A: Ovary after fertilisation.
- 102 Q: What develops into seed? A: Ovule after fertilisation.
- 103 Q: What is aleurone layer? A: Proteinaceous layer in endosperm.
- 104 Q: What is coleoptile? A: Sheath enclosing plumule.
- 105 Q: What is coleorhiza? A: Sheath enclosing radicle.
- 106 Q: What is floral diagram? A: Graphical representation of flower parts.
- 107 Q: What is Solanaceae also known as? A: Potato family.
- 108 Q: What leaf venation in Solanaceae? A: Reticulate.
- 109 Q: What placentation in Solanaceae? A: Axile.
- 110 Q: What is berry in Solanaceae? A: Fruit type like tomato.
- 111 Q: What is capsule in Solanaceae? A: Fruit type like brinjal.
- 112 Q: What seeds are in Solanaceae? A: Many and endospermous.
- 113 Q: What is habit of Solanaceae? A: Mostly herbs and shrubs.
- 114 Q: What stem feature in potato? A: Tuberous underground stem.
- 115 Q: What is aestivation in Solanaceae corolla? A: Valvate.
- 116 Q: What is epipetalous in Solanaceae? A: Stamens attached to petals.
- 117 Q: What is superior ovary in Solanaceae? A: Gynoecium position.
- 118 Q: What economic use of chilli? A: Spice.
- 119 Q: What economic use of tobacco? A: Fumigatory.
- 120 Q: What is basis of plant classification? A: Floral characteristics and period of viability.

i.

1 Q: What covers the apex of the root? A: A thimble-like structure called root cap.

2 Q: What is the function of root cap? A: It protects the tender apex of the root.

3 Q: What is present a few millimetres above the root cap? A: Region of meristematic activity.

4 Q: What are the features of cells in meristematic region? A: Very small, thin-walled with dense protoplasm.

5 Q: What do cells in meristematic region do? A: Divide repeatedly.

6 Q: What is the region proximal to meristematic activity called? A: Region of elongation.

7 Q: What happens in the region of elongation? A: Cells undergo rapid elongation and enlargement.

8 Q: What is the function of region of elongation? A: Responsible for growth of root in length.

9 Q: What is the zone proximal to region of elongation? A: Region of maturation.

10 Q: What happens to cells in region of maturation? A: They gradually differentiate and mature.

11 Q: What structures form from some epidermal cells in region of maturation? A: Very fine and delicate root hairs.

12 Q: What is the function of root hairs? A: Absorb water and minerals from the soil.

13 Q: What is shown in Figure 5.3? A: The regions of the root-tip.

14 Q: What are the four regions labelled in root tip diagram? A: Region of maturation, region of elongation, region of meristematic activity, root cap.

15 Q: What distinguishes a stem from a root? A: Stem is the ascending part bearing branches, leaves, flowers and fruits.

16 Q: From which part of embryo does stem develop? A: Plumule of the germinating seed.

17 Q: What does the stem bear? A: Nodes and internodes.

18 Q: What are nodes? A: Regions where leaves are born.

19 Q: What are internodes? A: Portions between two nodes.

20 Q: What does the stem bear? A: Buds (terminal or axillary).

21 Q: What colour change may occur in stem as it ages? A: Young stem is green but later becomes woody and dark brown.

22 Q: What is the main function of stem? A: Spreading out branches bearing leaves, flowers and fruits.

- 23 Q: What does stem conduct? A: Water, minerals and photosynthates.
- 24 Q: What additional functions can some stems perform? A: Storage of food, support and vegetative propagation.
- 25 Q: What is a leaf? A: A lateral, generally flattened structure borne on the stem.
- 26 Q: What is present in the axil of a leaf? A: A bud.
- 27 Q: What is the axillary bud? A: It later develops into a branch.
- 28 Q: From where do leaves originate? A: Shoot apical meristems.
- 29 Q: In what order are leaves arranged? A: Acropetal order.
- 30 Q: What is the most important function of leaves? A: Photosynthesis.
- 31 Q: How many main parts does a typical leaf consist of? A: Three main parts.
- 32 Q: What are the three main parts of a leaf? A: Leaf base, petiole and lamina.
- 33 Q: What is shown in Figure 5.4(a)? A: Parts of a leaf.
- 34 Q: What attaches the leaf to the stem? A: Leaf base.
- 35 Q: What may leaf base bear? A: Two lateral small leaf-like structures called stipules.
- 36 Q: In which plants does leaf base form a sheath? A: Monocotyledons.
- 37 Q: What is pulvinus? A: Swollen leaf base in some leguminous plants.
- 38 Q: What is the function of petiole? A: Holds the leaf blade to light and allows fluttering in wind.
- 39 Q: What is lamina also called? A: Leaf blade.
- 40 Q: What is the green expanded part of leaf? A: Lamina.
- 41 Q: What is present in lamina? A: Veins and veinlets.
- 42 Q: What is the middle prominent vein in leaf called? A: Midrib.
- 43 Q: What do veins provide to leaf blade? A: Rigidity.
- 44 Q: What do veins act as? A: Channels for transport of water, minerals and food materials.
- 45 Q: What varies in different leaves? A: Shape, margin, apex, surface and extent of incision of lamina.
- 46 Q: What is venation? A: Arrangement of veins and veinlets in the lamina of leaf.

- 47 Q: What is reticulate venation? A: Veins form a network.
- 48 Q: What is shown in Figure 5.4(b)? A: Reticulate venation.
- 49 Q: What is parallel venation? A: Veins run parallel to each other within lamina.
- 50 Q: What is shown in Figure 5.4(c)? A: Parallel venation.
- 51 Q: Which plants generally have reticulate venation? A: Dicotyledonous plants.
- 52 Q: Which plants have parallel venation? A: Most monocotyledons.
- 53 Q: When is a leaf called simple? A: When its lamina is entire or incisions do not touch the midrib.
- 54 Q: When is a leaf called compound? A: When incisions of lamina reach up to the midrib breaking it into leaflets.
- 55 Q: Where is the bud present in simple and compound leaves? A: In the axil of petiole.
- 56 Q: Where is the bud not present in compound leaf? A: In the axil of leaflets.
- 57 Q: What are the two types of compound leaves? A: Pinnately compound and palmately compound.
- 58 Q: What is shown in Figure 5.5(a)? A: Pinnately compound leaf (Neem).
- 59 Q: What is shown in Figure 5.5(b)? A: Palmately compound leaf (Silk Cotton).
- 60 Q: What is rachis? A: The main axis in pinnately compound leaf.
- 61 Q: What protects the root apex? A: Root cap.
- 62 Q: What region has small thin-walled cells with dense protoplasm? A: Region of meristematic activity.
- 63 Q: Which region is responsible for increase in root length? A: Region of elongation.
- 64 Q: Which region has mature differentiated cells? A: Region of maturation.
- 65 Q: What absorb water and minerals? A: Root hairs.
- 66 Q: What is the ascending part of plant axis? A: Stem.
- 67 Q: What develops from plumule? A: Stem.
- 68 Q: What are nodes and internodes? A: Parts of stem.
- 69 Q: What may buds on stem be? A: Terminal or axillary.
- 70 Q: What conducts photosynthates? A: Stem.

71 Q: What is a flattened lateral structure on stem? A: Leaf.

72 Q: What develops from axillary bud? A: Branch.

73 Q: What order are leaves arranged in? A: Acropetal order.

74 Q: What attaches leaf to stem? A: Leaf base.

75 Q: What may be present on leaf base? A: Stipules.

76 Q: What is swollen leaf base called? A: Pulvinus.

77 Q: What is the stalk of leaf called? A: Petiole.

78 Q: What is the flat green part of leaf? A: Lamina or leaf blade.

79 Q: What is the prominent middle vein? A: Midrib.

80 Q: What provides rigidity to leaf? A: Veins.

81 Q: What is network of veins called? A: Reticulate venation.

82 Q: What is parallel vein arrangement called? A: Parallel venation.

83 Q: Which venation is characteristic of dicots? A: Reticulate.

84 Q: Which venation is characteristic of monocots? A: Parallel.

85 Q: When is leaf lamina entire? A: In simple leaves.

86 Q: When does lamina break into leaflets? A: In compound leaves.

87 Q: What is pinnately compound leaf example? A: Neem.

88 Q: What is palmately compound leaf example? A: Silk Cotton.

89 Q: What is Figure 5.3 about? A: Regions of the root-tip.

90 Q: What is Figure 5.4 about? A: Structure of a leaf.

91 Q: What labels are in leaf diagram? A: Lamina, stipule, petiole, leaf base, axillary bud.

92 Q: What are two types of venation shown? A: Reticulate and parallel.

93 Q: What are two types of compound leaves? A: Pinnately and palmately.

94 Q: What protects tender root apex? A: Root cap.

95 Q: What cells divide repeatedly in root? A: Meristematic region cells.

96 Q: What causes root to grow in length? A: Region of elongation.

97 Q: Where do root hairs develop? A: Region of maturation.

98 Q: What bears nodes and internodes? A: Stem.

99 Q: What is main function of stem? A: Spreading branches with leaves, flowers and fruits.

100 Q: What additional functions can stem perform? A: Storage, support and vegetative propagation.

101 Q: What is borne on stem? A: Leaf.

102 Q: What is present at node in leaf axil? A: Axillary bud.

103 Q: What three parts make a typical leaf? A: Leaf base, petiole, lamina.

104 Q: What is pulvinus? A: Swollen leaf base in legumes.

105 Q: What allows leaf to flutter in wind? A: Petiole.

106 Q: What transports water in leaf? A: Veins.

107 Q: What is midrib? A: Middle prominent vein.

108 Q: What is reticulate venation? A: Veins forming a network.

109 Q: What venation do dicots have? A: Reticulate venation.

110 Q: What venation do monocots have? A: Parallel venation.

111 Q: What is simple leaf? A: Lamina entire or incisions not reaching midrib.

112 Q: What is compound leaf? A: Lamina divided into leaflets.

113 Q: In which leaf is bud absent in leaflet axil? A: Compound leaf.

114 Q: What is pinnately compound leaf? A: Leaflets on both sides of rachis.

115 Q: What is palmately compound leaf? A: Leaflets attached at one point.

116 Q: Which plant shows pinnately compound leaf? A: Neem.

117 Q: Which plant shows palmately compound leaf? A: Silk Cotton.

118 Q: What is rachis in compound leaf? A: Main axis bearing leaflets.

119 Q: What labels appear in root tip diagram? A: Root hair, region of maturation, region of elongation, region of meristematic activity, root cap.

120 Q: What is the chapter and page range covering root regions to leaf types? A: Morphology of Flowering Plants, pages 59-60.

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1 Q: In palmately compound leaves, where are leaflets attached? A: At a common point at the tip of petiole.

2 Q: Which plant shows palmately compound leaves? A: Silk cotton.

3 Q: What is phyllotaxy? A: Pattern of arrangement of leaves on the stem or branch.

4 Q: How many usual types of phyllotaxy exist? A: Three types.

5 Q: What are the three types of phyllotaxy? A: Alternate, opposite and whorled.

6 Q: What is shown in Figure 5.6? A: Different types of phyllotaxy.

7 Q: In alternate phyllotaxy, how many leaves arise at each node? A: A single leaf.

8 Q: Which plants show alternate phyllotaxy? A: China rose, mustard and sunflower plants.

9 Q: In opposite phyllotaxy, how many leaves arise at each node? A: A pair of leaves.

10 Q: How do leaves lie in opposite phyllotaxy? A: Opposite to each other.

11 Q: Which plants show opposite phyllotaxy? A: Calotropis and guava plants.

12 Q: When is phyllotaxy called whorled? A: More than two leaves arise at a node and form a whorl.

13 Q: Which plant shows whorled phyllotaxy? A: Alstonia.

14 Q: What is labelled (a) in Figure 5.6? A: Alternate phyllotaxy in China rose.

15 Q: What is labelled (b) in Figure 5.6? A: Opposite phyllotaxy in Guava.

16 Q: What is labelled (c) in Figure 5.6? A: Whorled phyllotaxy in Alstonia.

17 Q: What is 5.4 section title? A: The Inflorescence.

18 Q: What is a flower? A: A modified shoot.

19 Q: What changes in the shoot apical meristem for flower formation? A: It changes to floral meristem.

20 Q: What happens to internodes in a flower? A: Internodes do not elongate.

21 Q: What happens to the floral axis? A: The axis gets condensed.

22 Q: What does the apex produce in a flower? A: Different kinds of floral appendages laterally at successive nodes.

23 Q: What replaces leaves in floral axis? A: Floral appendages.

24 Q: When is a shoot tip transformation called solitary? A: When it transforms into a flower.

25 Q: What is the arrangement of flowers on floral axis called? A: Inflorescence.

26 Q: How many major types of inflorescences are there? A: Two major types.

27 Q: What are the two major types of inflorescences? A: Racemose and cymose.

28 Q: In racemose inflorescence, what continues to grow? A: The main axis.

29 Q: How are flowers borne in racemose type? A: Laterally in an acropetal succession.

30 Q: What is shown in Figure 5.7? A: Racemose inflorescence.

31 Q: In cymose inflorescence, what happens to main axis? A: It terminates in a flower.

32 Q: What is growth pattern in cymose inflorescence? A: Limited in growth.

33 Q: How are flowers borne in cymose type? A: In a basipetal order.

34 Q: What is shown in Figure 5.8? A: Cymose inflorescence.

35 Q: What is 5.5 section title? A: The Flower.

36 Q: What is the flower in angiosperms? A: The reproductive unit meant for sexual reproduction.

37 Q: How many whorls does a typical flower have? A: Four different kinds of whorls.

38 Q: What is the swollen end of stalk or pedicel called? A: Thalamus or receptacle.

39 Q: What are the four whorls on thalamus? A: Calyx, corolla, androecium and gynoecium.

40 Q: Which organs are accessory in a flower? A: Calyx and corolla.

41 Q: Which organs are reproductive in a flower? A: Androecium and gynoecium.

42 Q: In which flowers are calyx and corolla not distinct? A: Flowers like lily.

43 Q: What is perianth? A: When calyx and corolla are not distinct.

44 Q: When is a flower bisexual? A: When it has both androecium and gynoecium.

45 Q: When is a flower unisexual? A: When it has either only stamens or only carpels.

46 Q: What are the symmetry types of flowers? A: Actinomorphic or zygomorphic.

47 Q: What is actinomorphic symmetry? A: Radial symmetry.

48 Q: What is zygomorphic symmetry? A: Bilateral symmetry.

49 Q: When is a flower actinomorphic? A: When it can be divided into two equal radial halves by any radial plane.

- 50 Q: Which plants show actinomorphic flowers? A: Mustard, datura, chilli.
- 51 Q: When is a flower zygomorphic? A: When it can be divided into two similar halves only in one particular vertical plane.
- 52 Q: Which plants show zygomorphic flowers? A: Pea, gulmohur, bean, Cassia.
- 53 Q: When is a flower asymmetric? A: When it cannot be divided into two similar halves by any vertical plane.
- 54 Q: Which plant shows asymmetric flowers? A: Canna.
- 55 Q: What is trimerous flower? A: Floral appendages in multiple of 3.
- 56 Q: What is tetramerous flower? A: Floral appendages in multiple of 4.
- 57 Q: What is pentamerous flower? A: Floral appendages in multiple of 5.
- 58 Q: What are flowers with bracts called? A: Bracteate.
- 59 Q: What are flowers without bracts called? A: Ebracteate.
- 60 Q: What is shown in Figure 5.9? A: Position of floral parts on thalamus.
- 61 Q: What is labelled (a) in Figure 5.9? A: Hypogynous.
- 62 Q: What is labelled (b) and (c) in Figure 5.9? A: Perigynous.
- 63 Q: What is labelled (d) in Figure 5.9? A: Epigynous.
- 64 Q: In palmately compound leaves, what represents the midrib? A: The rachis.
- 65 Q: Which plant example is given for palmately compound leaves? A: Silk cotton.
- 66 Q: What is the common point for leaflets in palmately compound leaves? A: Tip of petiole.
- 67 Q: What is the pattern of leaf arrangement called? A: Phyllotaxy.
- 68 Q: On which part does phyllotaxy occur? A: On the stem or branch.
- 69 Q: Which figure shows different types of phyllotaxy? A: Figure 5.6.
- 70 Q: In which plant is alternate phyllotaxy shown? A: China rose.
- 71 Q: In which plant is opposite phyllotaxy shown? A: Guava.
- 72 Q: In which plant is whorled phyllotaxy shown? A: Alstonia.
- 73 Q: What is a modified shoot? A: A flower.
- 74 Q: What does not elongate in floral axis? A: Internodes.

- 75 Q: What produces floral appendages? A: The apex.
- 76 Q: What is inflorescence? A: Arrangement of flowers on the floral axis.
- 77 Q: Which type of inflorescence has acropetal succession? A: Racemose.
- 78 Q: Which type of inflorescence has basipetal order? A: Cymose.
- 79 Q: What continues to grow in racemose? A: Main axis.
- 80 Q: What terminates in cymose? A: Main axis in a flower.
- 81 Q: What is the reproductive unit in angiosperms? A: The flower.
- 82 Q: What is meant for sexual reproduction? A: The flower.
- 83 Q: What is thalamus also called? A: Receptacle.
- 84 Q: Which whorls are accessory organs? A: Calyx and corolla.
- 85 Q: Which whorls are reproductive organs? A: Androecium and gynoecium.
- 86 Q: What is perianth? A: Undistinct calyx and corolla.
- 87 Q: What is a bisexual flower? A: Has both androecium and gynoecium.
- 88 Q: What is a unisexual flower? A: Has only stamens or only carpels.
- 89 Q: What is radial symmetry called? A: Actinomorphic.
- 90 Q: What is bilateral symmetry called? A: Zygomorphic.
- 91 Q: Which flowers are actinomorphic? A: Mustard, datura, chilli.
- 92 Q: Which flowers are zygomorphic? A: Pea, gulmohur, bean, Cassia.
- 93 Q: Which flower is asymmetric? A: Canna.
- 94 Q: What is trimerous? A: Multiples of 3.
- 95 Q: What is tetramerous? A: Multiples of 4.
- 96 Q: What is pentamerous? A: Multiples of 5.
- 97 Q: What are bracteate flowers? A: Flowers with bracts.
- 98 Q: What are ebracteate flowers? A: Flowers without bracts.
- 99 Q: What position is hypogynous? A: Floral parts on thalamus (a).
- 100 Q: What position is perigynous? A: Floral parts on thalamus (b) and (c).

101 Q: What position is epigynous? A: Floral parts on thalamus (d).

102 Q: What is rachis in compound leaves? A: Common axis representing midrib.

103 Q: Which plant shows alternate phyllotaxy in Figure 5.6? A: China rose.

104 Q: Which plant shows opposite phyllotaxy in Figure 5.6? A: Guava.

105 Q: Which plant shows whorled phyllotaxy in Figure 5.6? A: Alstonia.

106 Q: What changes to floral meristem? A: Shoot apical meristem.

107 Q: What is condensed in flower? A: The axis.

108 Q: What is solitary flower? A: When shoot tip transforms into a flower.

109 Q: What is acropetal succession? A: In racemose inflorescence.

110 Q: What is basipetal order? A: In cymose inflorescence.

111 Q: What is Figure 5.7? A: Racemose inflorescence.

112 Q: What is Figure 5.8? A: Cymose inflorescence.

113 Q: What is thalamus? A: Swollen end of stalk or pedicel.

114 Q: What are accessory organs? A: Calyx and corolla.

115 Q: What are reproductive organs? A: Androecium and gynoecium.

116 Q: When is flower called bisexual? A: Both androecium and gynoecium present.

117 Q: When is flower called unisexual? A: Only stamens or only carpels.

118 Q: What symmetry is actinomorphic? A: Radial symmetry.

119 Q: What symmetry is zygomorphic? A: Bilateral symmetry.

120 Q: What is asymmetric flower example? A: Canna.

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1 Q: What is gynoecium? A: Female reproductive part of the flower.

2 Q: What is gynoecium made up of? A: One or more carpels.

3 Q: What are the three parts of a carpel? A: Stigma, style and ovary.

4 Q: What is the enlarged basal part of carpel? A: Ovary.

5 Q: What lies on the ovary? A: Elongated tube called the style.

6 Q: What connects the ovary to the stigma? A: The style.

7 Q: Where is the stigma usually located? A: At the tip of the style.

8 Q: What is the function of stigma? A: Receptive surface for pollen grains.

9 Q: What does each ovary bear? A: One or more ovules attached to placenta.

10 Q: What is placenta? A: Flattened cushion-like structure.

11 Q: What are free carpels called? A: Apocarpous (as in lotus and rose).

12 Q: What are fused carpels called? A: Syncarpous (as in mustard and tomato).

13 Q: What happens to ovules after fertilisation? A: Develop into seeds.

14 Q: What happens to ovary after fertilisation? A: Matures into a fruit.

15 Q: What is placentation? A: Arrangement of ovules within the ovary.

16 Q: Name the types of placentation. A: Marginal, axile, parietal, basal, central and free central.

17 Q: In marginal placentation, what forms? A: Placenta ridge along ventral suture of ovary.

18 Q: Which plant shows marginal placentation? A: Pea.

19 Q: In axile placentation, where are ovules attached? A: To axial placenta in multilocular ovary.

20 Q: Name plants with axile placentation. A: China rose, tomato and lemon.

21 Q: In parietal placentation, where do ovules develop? A: On inner wall of ovary or peripheral part.

22 Q: What happens to ovary in parietal placentation? A: Becomes two-chambered due to false septum.

23 Q: Name plants with parietal placentation. A: Mustard and Argemone.

24 Q: In free central placentation, where are ovules borne? A: On central axis with septa absent.

25 Q: Name plants with free central placentation. A: Dianthus and Primrose.

26 Q: In basal placentation, where is placenta located? A: At base of ovary with single ovule attached.

27 Q: Name plants with basal placentation. A: Sunflower and marigold.

28 Q: What is fruit? A: Mature or ripened ovary developed after fertilisation.

29 Q: What is parthenocarpic fruit? A: Fruit formed without fertilisation of ovary.

30 Q: What does fruit consist of? A: Wall or pericarp and seeds.

31 Q: What may pericarp be? A: Dry or fleshy.

32 Q: What is pericarp differentiated into when thick and fleshy? A: Outer epicarp, middle mesocarp and inner endocarp.

33 Q: What is a drupe? A: Fruit of mango and coconut.

34 Q: From what do drupes develop? A: Monocarpellary superior ovaries.

35 Q: How many seeds are in a drupe? A: One seeded.

36 Q: In mango, what is outer pericarp layer? A: Thin epicarp.

37 Q: In mango, what is middle pericarp layer? A: Fleshy edible mesocarp.

38 Q: In mango, what is inner pericarp layer? A: Stony hard endocarp.

39 Q: In coconut drupe, what is mesocarp? A: Fibrous.

40 Q: What develops from ovules after fertilisation? A: Seeds.

41 Q: What is a seed made up of? A: Seed coat and embryo.

42 Q: What is embryo made up of? A: Radicle, embryonal axis and one or two cotyledons.

43 Q: Which plants have one cotyledon? A: Wheat and maize.

44 Q: Which plants have two cotyledons? A: Gram and pea.

45 Q: What covers a seed? A: Seed coat.

46 Q: What are the two layers of seed coat? A: Outer testa and inner tegmen.

47 Q: What is hilum? A: Scar on seed coat where seed was attached to fruit.

48 Q: What is micropyle? A: Small pore above hilum.

49 Q: What is inside the seed coat? A: Embryo consisting of embryonal axis and two cotyledons.

50 Q: What are cotyledons full of? A: Reserve food materials.

51 Q: What is at the two ends of embryonal axis? A: Radicle and plumule.

52 Q: What is endosperm? A: Food storing tissue formed by double fertilisation.

53 Q: Which seeds are endospermic? A: Castor.

54 Q: Which seeds are non-endospermous? A: Bean, gram and pea.

55 Q: Are monocotyledonous seeds usually endospermic? A: Yes.

56 Q: Which monocot seeds are non-endospermic? A: Orchids.

57 Q: Which cereal seeds are endospermic? A: Maize.

58 Q: What is shown in Figure 5.12? A: Types of placentation.

59 Q: What is labelled (a) in Figure 5.12? A: Marginal placentation.

60 Q: What is labelled (b) in Figure 5.12? A: Axile placentation.

61 Q: What is labelled (c) in Figure 5.12? A: Parietal placentation.

62 Q: What is labelled (d) in Figure 5.12? A: Free central placentation.

63 Q: What is labelled (e) in Figure 5.12? A: Basal placentation.

64 Q: What is shown in Figure 5.13? A: Parts of a fruit.

65 Q: What is labelled in mango fruit diagram? A: Epicarp, mesocarp, seed and endocarp.

66 Q: What is shown in coconut fruit? A: Drupe with fibrous mesocarp.

67 Q: What is shown in Figure 5.14? A: Structure of dicotyledonous seed.

68 Q: What is labelled in dicot seed diagram? A: Seed coat, hilum, micropyle, cotyledon, plumule and radicle.

69 Q: What is the female reproductive part? A: Gynoecium.

70 Q: What are carpels? A: Units of gynoecium.

71 Q: What receives pollen grains? A: Stigma.

72 Q: What connects style to ovary? A: Style.

73 Q: What are free carpels? A: Apocarpous.

74 Q: What are united carpels? A: Syncarpous.

75 Q: What matures into fruit? A: Ovary.

76 Q: What is arrangement of ovules called? A: Placentation.

77 Q: Which placentation has ridge along ventral suture? A: Marginal.

78 Q: Which placentation has axial placenta? A: Axile.

79 Q: Which placentation has ovules on inner wall? A: Parietal.

80 Q: Which placentation has ovules on central axis? A: Free central.

81 Q: Which placentation has single ovule at base? A: Basal.

82 Q: What is ripened ovary? A: Fruit.

83 Q: What is fruit without fertilisation? A: Parthenocarpic fruit.

84 Q: What is fruit wall called? A: Pericarp.

85 Q: What are three layers of fleshy pericarp? A: Epicarp, mesocarp and endocarp.

86 Q: What is fleshy edible part in mango? A: Mesocarp.

87 Q: What is stony part in mango? A: Endocarp.

88 Q: What is fibrous in coconut? A: Mesocarp.

89 Q: What develops into seed? A: Ovule.

90 Q: What covers the seed? A: Seed coat.

91 Q: What are seed coat layers? A: Testa (outer) and tegmen (inner).

92 Q: What is scar on seed coat? A: Hilum.

93 Q: What is pore on seed coat? A: Micropyle.

94 Q: What is inside seed? A: Embryo.

95 Q: What does embryo consist of? A: Embryonal axis, radicle and cotyledons.

96 Q: How many cotyledons in dicot? A: Two.

97 Q: What stores food in cotyledons? A: Reserve food materials.

98 Q: What is at lower end of embryonal axis? A: Radicle.

99 Q: What is at upper end of embryonal axis? A: Plumule.

100 Q: What is endosperm? A: Food storing tissue in some seeds.

101 Q: Which seeds lack endosperm at maturity? A: Bean, gram and pea.

102 Q: Are monocot seeds usually endospermic? A: Yes.

103 Q: Which monocot seeds lack endosperm? A: Orchids.

104 Q: What is gynoecium also called? A: Female reproductive part.

105 Q: What attaches ovules? A: Placenta.

106 Q: What is apocarpous example? A: Lotus and rose.

107 Q: What is syncarpous example? A: Mustard and tomato.

108 Q: What is marginal placentation example? A: Pea.

109 Q: What is axile placentation example? A: China rose.

110 Q: What is parietal placentation example? A: Mustard.

111 Q: What is free central placentation example? A: Dianthus.

112 Q: What is basal placentation example? A: Sunflower.

113 Q: What is pericarp in dry fruit? A: Dry.

114 Q: What is pericarp in fleshy fruit? A: Thick and fleshy.

115 Q: What is drupe example? A: Mango and coconut.

116 Q: What is seed coat outer layer? A: Testa.

117 Q: What is seed coat inner layer? A: Tegmen.

118 Q: What attaches seed to fruit? A: Hilum.

119 Q: What is pore for water entry? A: Micropyle.

120 Q: What is food storing in endospermic seeds? A: Endosperm.