CHAPTER

6

Anatomy of Flowering Plants

PRACTICE QUESTIONS

The Tissues

1. The branch of biology deals with internal structure of plants is called
(a) Morphology (b) Physiology (c) Anatomy (d) Biochemistry

2. Find out the incorrect statement:
(a) Monocot and dicot are anatomically different.
(b) Internal structures also show adaptations to diverse environment.
(c) The basic unit of plant is made up of cells.
(d) Different organs of plants are similar in their internal structure.

3. A tissue is a group of cells having a
(a) Common origin and always a common function.
(b) Common origin and always a different function.
(c) Common origin and usually a common function.
(d) Different origin and a different function.

4. Depending on whether the cells being formed are capable of dividing or not, the plant tissues are classified into how many types?
(a) 1 (b) 2 (c) 3 (d) 4

5. Find the example of primary meristem.
(a) Apical meristem (b) Intercalary meristem
(c) Lateral meristem (d) Both (a) and (b)

6. Apical meristem is present at
(a) Root and shoot apex (b) Place between mature tissue
(c) Vascular cambium (d) Cork cambium

7. Axillary bud is
(a) Present in axil of leaf (b) Capable of forming branch
(c) Capable of forming flower (d) All of these

8. Which tissue occurs in grasses and regenerate parts removed by the grazing herbivores?
(a) Apical meristem (b) Lateral meristem
(c) Intercalary meristem (d) All of these

9. The meristem that occurs in the mature regions of roots and shoots of many plants, particularly those that produce woody axis and appear later than primary meristem, is called
(a) Intercalary meristem (b) Apical meristem
(c) Secondary or lateral meristem (d) All the above

10. Find the example of lateral meristem.
(a) Fascicular cambium (b) Interfascicular cambium
(c) Cork-cambium (d) All of these

11. The newly-formed cells from primary and secondary meristem, which becomes structurally and functionally specialized and lose the ability to divide are known as
(a) Permanent cells (b) Mature cells
(c) Both (a) and (b) (d) None of these

12. During the formation of the primary plant body, the specific regions of the apical meristem produces
(a) Dermal tissues (b) Ground tissues (c) Vascular tissues (d) All of these

13. Permanent tissues, which have all cell similar in structure and function are called
(a) Complex tissues (b) Simple tissues
(c) Meristematic tissues (d) All of these

14. Permanent tissues, which have many different types of cells are called
(a) Complex tissues (b) Simple tissues
(c) Meristematic tissues (d) All of these

15. Which tissue is the most abundant in plant organ?
(a) Parenchyma (b) Collenchyma
(c) Sclerenchyma (d) Sclereids

16. The following features belong to
I. Cells are generally isodiametric. They may be spherical, oval, round, polygonal, or elongated in shape.
II. Cells have thin wall and are made up of cellulose.
III. Cells may be closely packed or may have intercellular spaces.
IV. Tissue perform various kind of functions like photosynthesis, storage and secretion.
(a) Collenchyma (b) Parenchyma (c) Xylem (d) Sclerenchyma

17. The following features belong to
I. Cells are thick at corner due to the deposition of cellulose, hemicelluloses and pectin.
II. Cells may contain chloroplast and gets assimilated.
III. Intercellular spaces are absent.
IV. Provide mechanical support to growing parts of the plant such as young stem and petiole of leaf.
(a) Collenchyma (b) Parenchyma (c) Xylem (d) Sclerenchyma

18. Which simple tissue is characterized by pits?
(a) Collenchyma (b) Parenchyma
(c) Sclerenchyma (d) All of these

19. _____ are spherical, oval, cylindrical, highly thickened dead cell with very narrow cavities.
(a) Sieve tube (b) Companion cell (c) Fibres (d) Sclereids

20. Secondary thickening in collenchyma is of
(a) Cellulose (b) Hemicellulose (c) Pectin (d) All of these

21. On what basis we classify sclerenchyma into fibres or sclereids?
(a) Structure (b) Origin (c) Development (d) All of these

22. Sclereids are present in the pulp of
(a) Guava (b) Pear (c) Sapodilla (d) All of these

23. Sclereids are present in
(a) Fruit wall of nuts (b) Seed coat of legumes
(c) Leaves of tea (d) All of these

24. Which tissue is usually dead and without protoplast?
(a) Parenchyma (b) Collenchyma (c) Sclerenchyma (d) All of these

25. The collenchyma tissue is characterized by
(a) Elongated cells with thickness at the corners.
(b) Isodiametric cells with deposits of cellulose and pectin at the corners.
(c) Elongated cells with deposits of cellulose and pectin all over the wall.
(d) Isodiametric cells with thickness all over the cell wall.

26. In which way collenchyma differs from sclerenchyma?
(a) Retaining protoplasm at maturity (b) Having thick walls
(c) Having wide lumen (d) Being meristematic

27. Walls of sclerenchyma are
(a) Rigid (b) Lignified (c) Pectinized (d) Suberized

28. Collenchyma differs from parenchyma in having
(a) Living protoplasm (b) Cellulose walls
(c) Vacuoles (d) Pectin deposits at corners

29. Which of the following are simple tissues?
(a) Parenchyma, xylem and phloem
(b) Parenchyma, collenchyma and sclerenchyma
(c) Parenchyma, xylem and collenchymas
(d) Parenchyma, xylem and sclerenchyma

30. What is the most common type of permanent tissue found in almost all plants?
(a) Sclerenchyma (b) Collenchyma
(c) Parenchyma (d) Xylem

31. Which of the following tissues gives tensile strength against bending and swaying?
(a) Parenchyma (b) Collenchyma (c) Sclereids (d) All of these

32. A simple mechanical tissue devoid of lignin is
(a) Parenchyma (b) Collenchymas (c) Sclerenchyma (d) Chlorenchyma

33. The primary plant body is made up of
(a) Meristematic tissues (b) Simple tissues
(c) Complex tissues (d) All the above

34. Hard lignified thick-walled long and pointed cells of a plant are
(a) Parenchyma (b) Sclerenchyma fibers
(c) Collenchymas (d) Sclereids

35. A thick-walled lignified simple mechanical tissue is
(a) Parenchyma (b) Collenchymas (c) Sclerenchyma (d) Chlorenchyma

36. How many types of cells are present in complex tissue?
(a) More than one (b) More than three
(c) One type (d) Three type

37. The functions of xylem are
(a) Conduct water from root to stem and leaves
(b) Conduct mineral from root to stem and leaves
(c) Provide mechanical strength to plant
(d) All of these

38. Xylem is composed of how many different elements?
(a) 1 (b) 2 (c) 3 (d) 4

39. Gymnosperm lacks _____ in their xylem.
(a) Tracheids (b) Vessels
(c) Xylem fibres (d) Xylem parenchyma

40. Select the correct matching:

Column I		**Column II**
A. Tracheids	–	1. Elongated and tube like cells with thick and lignified wall and tapering ends.
B. Vessels	–	2. Tube like structure made up of many cells, each cell with lignified wall and large central cavity.
C. Xylem fibre	–	3. Highly thickened walls and obliterated central humans.
D. Xylem parenchyma	–	4. Living cell with thin cell wall made up of cellulose.

(a) A–2, B–1, C–3, D–4 (b) A–3, B–1, C–2, D–4
(c) A–1, B–2, C–3, D–4 (d) A–3, B–2, C–1, D–4

41. Xylem parenchyma stores
(a) Starch (b) Fat (c) Tannins (d) All of these

42. Phloem parenchyma stores
(a) Resins (b) Latex (c) Mucilage (d) All of these

43. Select the incorrect statement from the following:
(a) Vessel members are interconnected through perforations in their common walls.
(b) Presence of vessel is a characteristic feature of angiosperms.
(c) Radial conduction of water takes place by the ray parenchymatous cells.
(d) Tracheids, vessel, xylem sclerenchyma and parenchyma are without protoplast.

44. Protoplast is absent in all except
(a) Tracheids (b) Vessels
(c) Xylem sclerenchyma (d) Xylem parenchyma

45. The primary xylem elements formed are called _____ and the secondary xylem formed is called _____.
(a) protoxylem, protoxylem (b) metaxylem, metaxylem
(c) protoxylem, metaxylem (d) metaxylem, protoxylem

46. In stem
(a) Protoxylem lies towards pith (centre)
(b) Metaxylem lies towards periphery of the organs
(c) Endarch arrangement is present
(d) All the above

47. In root
(a) Endarch arrangement is present
(b) Exarch arrangement is present
(c) Protoxylem lies towards the centre
(d) Metaxylem lies towards the periphery

48. Phloem transports
(a) Water (b) Mineral (c) Food materials (d) All of these

49. How many elements are composed in phloem in angiosperm?
(a) 1 (b) 2 (c) 3 (d) 4

50. Phloem is composed of all except
(a) Sieve tube elements
(b) Companion cells
(c) Phloem parenchyma and sclerenchyma
(d) Vessels

51. Gymnosperm posses
(a) Sieve tubes
(b) Companion cells
(c) Albuminous cell and sieve cells
(d) All of these

52. Select the incorrect statement from the following:
(a) End walls of sieve tube have sieve plates.
(b) Sieve tube and companion cells are connected by pit present between common longitudinal wall.
(c) Companion cells are specialized parenchymatous cells having nucleus which controls the function of sieve tubes
(d) Phloem parenchyma is present in most of the monocots.

53. The following are live components of phloem except
(a) Sieve tube
(b) Companion cell
(c) Phloem parenchyma
(d) Phloem fibre (bast fibre)

54. The following are dead components of xylem except
(a) Tracheids
(b) Vessels
(c) Xylem sclerenchyma (wood fibres)
(d) Xylem parenchyma

55. Select the correct statement from the following:
(a) Companion cells help in maintaining pressure gradients in the sieve tubes.
(b) Phloem parenchyma stores food material.
(c) Bast fibres are generally absent in the primary phloem but are found in secondary phloem.
(d) All of these

56. Following are the features of phloem fibres except
(a) Pointed apices (b) More elongated (c) Branched (d) Unbranched

57. Phloem fibre, which is commercially used is actually
(a) Jute (b) Flax (c) Hemp (d) All of these

58. Select the incorrect matching:
(a) Protophloem – Narrow sieve tubes
(b) Metaphloem – Bigger sieve tubes
(c) Gymnosperm – Albuminous cells and sieve cells
(d) Gymnosperm – Vessels in xylem

59. A mature sieve tube differs from vessel in
(a) Being nearly dead (b) Lacking cytoplasm
(c) Lacking a functional nucleus (d) Absence of lignified walls

60. In pteridophyta and gymnosperms, which cells are present in place of companion cell?
(a) Sclereids (b) Albuminous cells
(c) Idioblasts (d) None of these

61. Both vessels and companion cells are absent in
(a) Angiosperms (b) Pteridophyta (c) Gymnosperms (d) Both (b) and (c)

62. The only plant cells without nuclei among the following are
(a) Cambium cells (b) Cells of pericycle
(c) Xylem parenchyma (d) Sieve tubes

63. Vessels differ from tracheids
(a) In being derived from single cell
(b) In having vertical rows of cells with cross walls dissolved
(c) In being alive
(d) In helping in the conduction of water

64. Companion cells are usually seen associated with
(a) Fibres (b) Vessels (c) Tracheids (d) Sieve tubes

65. Sieve tubes are better suited for translocation because they
(a) Possess broader lumen and perforated cross walls
(b) Are broader than long
(c) Possess bordered pits
(d) Possess no end walls

66. Lignified cell wall is the characteristic feature of
(a) Phloem cells (b) Epidermal cells
(c) Cambial cells (d) Xylem cells

67. The chief function of sieve tube is
(a) To translocate the organic materials manufactured in the leaves
(b) To conduct minerals
(c) To transport water from root to leaves
(d) To help the plant in forming wood

68. The function of storage is performed by
(a) Parenchyma (b) Sclerenchyma (c) Phloem (d) All of these

69. Which is present in the vascular bundles of gymnosperms?
(a) Tracheids (b) Vessels (c) Companion cells (d) All of these

70. How many types of tissue systems are present in plant depending on their structure and function?
(a) 1 (b) 2 (c) 3 (d) 4

The Tissue System

71. Tissue system include
(a) Epidermal tissue system
(b) Ground tissue system or fundamental tissue system
(c) Vascular tissue system
(d) All the above

72. Epidermal tissue system is made up of
(a) Epidermal cells (b) Stomata
(c) Epidermal appendages (d) All of these

73. Which of the following is epidermal appendage?
(a) Trichome (b) Guard cell (c) Sclereid (d) Subsidiary cell

74. Select T/F (True/False).
(a) Epidermis is usually single-layered.
(b) Epidermal cells are parenchymatous cell with abundant cytoplasm.
(c) Vessel members of xylem are interconnected through perforation in their common walls.
(d) Sclerenchyma provides mechanical support to organs.
(a) TTTT (b) TFFT (c) TFTT (d) FFTT

75. The epidermis is generally covered with a waxy thick layer called the _____ which prevents the loss of water.
(a) Suberin (b) Tunicin (c) Cuticle (d) Chitin

76. Which of the following is true about stomata?
(a) Formed by guard cells
(b) Regulate the process of transpiration and gaseous exchange
(c) Mainly present on epidermis of leaves
(d) All of these

77. Which of the following is true about guard cells?
(a) Outer wall is thin
(b) Inner wall (towards stomatal pore) is thick
(c) Bean-shaped in dicots and dumb-bell-shaped in grasses
(d) All of these

78. Which of the following cell posses chloroplast?
(a) Mesophyll cells of leaf (b) Guard cells
(c) Sometimes in cells of collenhcyma (d) All of these

79. Stomatal apparatus consists of
(a) Subsidiary cells (b) Guard cells
(c) Stomatal aperture (d) All of these

80. Stem hairs are
(a) Unicellular (b) Acellular (c) Multicellular (d) Any of them

81. Trichomes are
(a) Epidermal hair of stem (b) Either soft or stiff
(c) Branched or unbranched (d) All of these

82. Select the incorrect statement from the following:
(a) Trichomes help in preventing water loss due to transpiration
(b) Cuticle prevents loss of water
(c) Cuticle is absent in roots
(d) Epidermis is made up of elongated, loosely arranged cell, which forms continuous layer

83. Ground tissue is made up of
(a) Parenchyma (b) Collenchyma (c) Sclerenchyma (d) All of these

84. Parenchymatous cells are usually present in
(a) Cortex, pericycle (b) Pith and medullary rays
(c) Primary stem and roots (d) All of these

85. Thin-walled chloroplast containing mesophyll cells are present in
(a) Root (b) Stem (c) Leaf (d) All of these

86. Vascular system consists of
(a) Simple tissue (b) Complex tissue (c) Xylem (d) Phloem

87. Closed vascular bundle is present in
(a) Monocot (b) Dicot (c) Both (a) and (b) (d) None of these

88. Conjoint vascular bundle is present in
(a) Monocot stem (b) Dicot stem (c) Leaf (d) All of these

89. A root hair is formed by
(a) Epidermal cell (b) Endodermal cell (c) Cortical cell (d) Pericycle cell

90. Epidermal outgrowths are known as
(a) Stomata (b) Leaves (c) Trichomes (d) Flower buds

91. Vascular bundles having xylem and phloem which lie at the same radius is termed as
(a) Concentric (b) Radial (c) Collateral (d) Amphicribral

92. Which of the following would not secrete a cuticle?
(a) Root epidermis (b) Leaf epidermis (c) Xerophytes (d) Stem epidermis

93. Which one of the following is a type of tissue system?
(a) Parenchyma (b) Sclerenchyma (c) Vascular (d) All of these

94. Root hairs are
(a) Acellular (b) Unicellular
(c) Multicellular (d) Multicellular and unicellular

95. Vascular bundles of roots are
(a) Conjoint (b) Concentric (c) Bicollateral (d) Radial

96. Radial vascular bundle can be seen in
(a) Leaf (b) Dicot root (c) Stem (d) Flower

97. When xylem and phloem are separated by a strip of cambium it is called
(a) Collateral and open (b) Collateral and closed
(c) Bicollateral and open (d) Concentric and closed

98. Vascular bundle is closed when
(a) Cambium is present (b) Cambium is absent
(c) Pericycle is absent (d) None of these

99. The following features belong to which option?
I. Cortex is made up of several layers of thin-walled parenchyma cells with intercellular spaces.
II. Endoderm is made up of single layer of barrel-shaped cells without any intercellular spaces.
III. Few layers of thick-walled parenchymatous cell forms pericycle.
IV. Pith is small or inconspicuous.
V. Conjuctive tissue present is 2 to 4 xylem and phloem patches.
(a) Dicot root (b) Dicot stem (c) Monocot root (d) Monocot stem

100. Stele is made up of (in dicot root)
(a) Pericycle (b) Vascular bundle (c) Pith (d) All of these

101. Outside to inside the layer of monocot root are
(a) Endodermis – Epidermis – Cortex – Pith–Vascular bundle–Pericycle
(b) Pith–Epidermis–Endodermis–Cortex–Pericycle–Vascular bundle
(c) Epidermis–Cortex–Endodermis–Pericycle–Vascular bundle–Pith
(d) Pericycle–Vascular bundle–Cortex–Pith–Epidermis–Endodermis

102. The following features belong to which option?
I. Epidermis may bear trachoma and few stomata.
II. Cortex is divided into three sub-zones.
III. Hypodermis is made up of collenchymas starch sheath.
IV. Pericycle above phloem is in the form of semilunar patches of sclerenchyma.
(a) Dicot root (b) Dicot stem
(c) Monocot root (d) Monocot stem

103. Select the incorrect statement among the following:
(a) Ring arrangement of vascular bundle is a characteristic of dicot stem.
(b) Phloem parenchyma is absent in monocot stem.
(c) Monocots have sclerenchymatous hypodermis.
(d) In monocot, peripheral, vascular bundle, which are generally large and centrally located are small and water containing cavities are present within the vascular bundle.

104. Which of the following is correct about dorsiventral leaf?
(a) The veins vary in thickness in the reticulate venation.
(b) Palisade parenchyma is abaxially placed.
(c) Abaxial surface bears no stomata.
(d) The size of vascular bundles are independent on the size of veins.

105. Which of the following is incorrect about isobilateral leaf?
(a) Stomata is present on both surfaces
(b) Undifferentiated mesophyll
(c) Nearly the same size of vascular bundle is present all over leaf
(d) It is a monocot leaf

Secondary Growth

106. The growth of the roots and stems in length with the help of apical meristem is called
(a) Secondary growth (b) Primary growth
(c) Both (a) and (b) (d) None of these

107. Dicot plant exhibits an increase in girth. It is an example of
(a) Secondary growth (b) Primary growth
(c) Both (a) and (b) (d) None of these

108. Cells of cambium present between primary xylem and primary phloem forms
(a) Interfascicular cambium
(b) Intrafascicular cambium (fascicular cambium)
(c) Cork cambium
(d) None of these

109. Vascular cambium is formed by
I. Interfascicular cambium
II. Intrafascicular cambium.
III. Cork cambium
(a) I and III only (b) II and III only (c) I, II and III only (d) I and II only

110. Cambium wing forms cells towards
(a) Inner side of ring (b) Outer side of ring
(c) Both side of ring (d) They do not form cells

111. The vascular cambium activity is
(a) More on inner side than outer (b) More on outer side than inner
(c) Equal on outer and inner side (d) None of these

112. The following will not happen during secondary growth by cambium ring:
(a) Secondary xylem produced is more than secondary phloem.
(b) Primary and secondary phloem is crushed due to continued formation and accumulation of secondary xylem.
(c) Primary xylem remains more or less intact in or around centre.
(d) The cells cut off towards pith mature into secondary phloem and cells cut off towards periphery mature into secondary xylem.

113. During secondary growth all occur except
(a) Secondary medullar rays forms (b) Phloem crushed
(c) Primary phloem forms (d) Secondary xylem forms

114. The activity of cambium is under control of
(a) Physiological factor (b) Environmental factor
(c) Both (a) and (b) (d) None

115. Select the total number of correct statements from the following:
(1) In spring season cambium is active and produces a large number of xylary elements having vessels with wider lumen.
(2) The spring wood is also known as early wood.
(3) In winter, the cambium is less active and forms few xylary elements having narrow vessels this is called autumn wood or late wood.

(4) The spring wood is lighter in colour and has lower density.
(5) Autumn wood is darker and has higher density.
(6) Annual ring (autumn wood and spring wood) used to estimate the age of plant.
(a) 3 (b) 4 (c) 5 (d) 6

116. In older trees, the greater part of secondary xylem is dark brown due to the deposition of
(a) Tannins and resins (b) Oil and gums
(c) Aromatic substance and essential oil (d) All of these

117. The dark brown deposition of organic compound in heartwood will make it
(a) Hard (b) Durable
(c) Resistant to microbes and pest (d) All of these

118. Heartwood contains
(a) Live lignified element (b) Dead highly lignified element
(c) Live non-lignified element (d) Dead non-lignified elements

119. The function of heartwood is
(a) Conduction of water (b) Conduction of mineral
(c) Conduction of food (d) Mechanical support

120. Peripheral region of secondary xylem, which is light in color is known as
(a) Heartwood (duramen) (b) Sapwood (alburnum)
(c) Spring wood (d) Autumn wood

121. The cells of secondary cortex are
(a) Parenchymatous (b) Sclerenchymatous
(c) Collenchymatous (d) Meristems

122. Bark refers to
(a) Periderm (b) Secondary phloem
(c) Both (a) and (b) (d) None of these

123. At certain region, the phellogen cuts off closely arranged parenchymatous cells on the outer side instead of cork cells. These parenchymatous cells soon rupture epidermis, forming a lens-shaped opening called
(a) Hydathodes (b) Stomata (c) Lenticels (d) None of these

124. Which of the following is correct about lenticels?
(a) It is present in most of the woody trees (b) It helps in gaseous exchange
(c) It is formed by the activity of phellogen (d) All of these

125. In dicot root, the vascular cambium is
(a) Completely primary in origin (b) Partly primary and partly secondary
(c) Completely secondary in origin (d) None of these

126. Initially formed cambium in dicot root is
(a) Circular (b) Rectangular (c) Oval (d) Wavy

127. Secondary growth occur in
(a) Dicot root (b) Dicot stem
(c) Stem and root of gymnosperm (d) All of these

128. Which of the following is incorrect?
(a) Wood is actually a secondary xylem.
(b) Different type of woods are found on basis of their composition and time of production.
(c) Monocot and dicot show marked variation in their internal structure.
(d) Increase in girth of dicot stem by vascular cambium only.

129. Main functions of plant tissues are
(a) Assimilation of food and its storage
(b) Transportation of water, mineral and photosynthates
(c) Mechanical support
(d) All of these

130. Cambium causes growth in
(a) Circumference (b) Width (diameter)
(c) Leaves (d) Length

131. The function of cork cambium (phellogen) is to produce
(a) Cork and secondary cortex (b) Secondary xylem and secondary phloem
(c) Cork (d) Secondary cortex and phloem

132. Other names of secondary cortex, cork cambium and cork are
(a) Phellem, phelloderm and phellogen
(b) Phellogen, phellem and phelloderm
(c) Phelloderm, phellogen and phellem
(d) Phellogen, phelloderm and phellem

133. In dicot roots, the vascular cambium is derived from
(a) Epidermis (b) Hypodermis (c) Cortex (d) Pericycle

134. Periderm is made up of
(a) Phellem (b) Phellogen (c) Phelloderm (d) All of these

135. Cork cells are
(a) Dead (b) Photosynthetic
(c) Elongated and participates in movement (d) Meristematic

136. Annual rings are distinct in plants growing in
(a) Tropical regions (b) Arctic region
(c) Grasslands (d) Temperate region

137. Xylem, which is functional in a dicot tree is
(a) Spring wood (b) Sap wood (c) Autumn wood (d) Heart wood

138. External protective tissues of plants (of dicot stem are)
(a) Cork and pericycle (b) Cortex and epidermis
(c) Pericycle and cortex (d) Epidermis and cork

139. Cork cambium is a
(a) Secondary meristem (b) Apical meristem
(c) Intercalary meristem (d) Primary meristem

140. Cambium, which produces cork is known as
(a) Phelloderm (b) Phellogen (c) Periblem (d) Periderm

141. Dendrochronology is the study of
(a) Height of a tree
(b) Diameter of a tree
(c) Age of a tree by counting the number of annual rings in the main stem
(d) None of these

142. The tissue made up of thin-walled rectangular cells responsible for the secondary growth is
(a) Cortex (b) Xylem (c) Cambium (d) Pith

143. In old dicot stems, a major part of the wood is filled up with tannins, resins, gums, etc. This part of wood is called
(a) Hard wood (b) Heart wood (c) Sap wood (d) Soft wood

144. Lenticel develops through the activity of
(a) Vascular cambium (b) Dermatogens
(c) Phellogen (d) Intercalary meristem

145. The waxy substance associated with cell walls of cork cells are impervious to water because of the presence of _____, which gets deposited on cork cells
(a) Cutin (b) Suberin (c) Lignin (d) Hemicellulose

146. Growth rings determines the
(a) Age (b) Length
(c) Breadth (d) Number of branches of a plant

147. Lenticels are formed in bark, which are
(a) Aerating pores (b) Made up of phloem
(c) Made up of xylem (d) Found in monocot plants

148. Heart wood or duramen is the
(a) Outer region of secondary xylem (b) Inner region of secondary xylem
(c) Outer region of secondary phloem (d) Inner region of secondary phloem

149. The bark of tree comprises of
(a) All the tissues outside the vascular cambium
(b) All the tissues outside the cork cambium
(c) Only the cork
(d) The cork and secondary cortex

150. The layer of cells between endodermis and vascular bundles is called
(a) Epidermis (b) Pericycle (c) Hypodermis (d) Pith

151. Bulliform or motor cells are present in
(a) Dicot stem (b) Upper epidermis of dicot leaves
(c) Lower epidermis of monocot leaves (d) Upper epidermis of monocot leaves

152. Exarch and polyarch vascular bundles occur in
(a) Monocot stem (b) Monocot root (c) Dicot stem (d) Dicot root

153. In root, the xylem is
(a) Mesarch
(b) Exarch
(c) Placed at different places in different plants
(d) Endarch

154. In monocot leaf
(a) Bulliform cells are absent from the epidermis
(b) Veins form a network
(c) Mesophyll is well differentiated into these parts
(d) Mesophyll is not differentiated into palisade and spongy parenchyma

155. In dicot root
(a) Vascular bundles are scattered and with cambium
(b) Vascular bundles are arranged in a ring and have cambium
(c) Xylem and phloem are radially arranged
(d) Xylem is always endarch

156. Well-developed pith is found in
(a) Monocot stem and dicot root (b) Monocot and dicot stems
(c) Dicot stem and dicot root (d) Dicot stem and monocot root

157. The correct situation of mesophyll in isobilateral grass leaf is shown by
(a) Palisade towards adaxial surface (b) Palisade towards abaxial surface
(c) Undifferentiated mesophyll (d) Palisade along both the surface

158. Monocot root differs from dicot root in having
(a) Open vascular bundles (b) Scattered vascular bundles
(c) Well-developed pith (d) Radially arranged vascular bundles

159. Vascular bundles are scattered in
(a) Bryophytes (b) Dicot root (c) Dicot stem (d) Monocot stem

160. Generally hypodermis in monocots is composed of
(a) Parenchyma (b) Sclerenchyma
(c) Collenchymas (d) Chlorenchyma

161. The polyarch condition is seen in
(a) Monocot stem (b) Monocot root
(c) Dicot root (d) Dicot stem

162. Which of the following is not a characteristic feature of the anatomy of dicotyledonous root?
(a) Radial vascular bundles (b) Secondary growth
(c) Pith is little or absent (d) Conjoint collateral

163. Endodermis of dicot stem is also called
(a) Bundle sheath (b) Starch sheath (c) Mesophyll (d) Pith

164. The cell layer located at the periphery in the cross-section of the root is called
(a) Endodermis (b) Epiblema (c) Pericycle (d) Xylem

165. Exarch xylem is found in
(a) Root (b) Stem (c) Leaf (d) Rachis

166. Two to four xylem bundle are found in
(a) Monocot root (b) Monocot stem (c) Dicot stem (d) Dicot root

167. Collenchymatous hypodermis is characteristics of
(a) Dicot stem (b) Monocot stem
(c) Monocot as well as dicot stem (d) Hydrophytes

168. Vascular bundles in dicot stem are
(a) Conjoint and collateral (b) Conjoint and closed
(c) Conjoint, collateral and open (d) Collateral and open

169. Cortex and pith are not distinguished in
(a) Dicot stem (b) Monocot stem
(c) Dicot root (d) Monocot root

170. In a dorsiventral leaf, the location of palisade tissue and phloem are known as
(a) Abaxial and abaxial (b) Adaxial and abaxial
(c) Adaxial and adaxial (d) Abaxial and adaxial

171. Which of the following is seen in a monocot root?
(a) Large pith (b) Vascular cambium
(c) Endarch xylem (d) Medullary ray

172. With respect to which factor, the pericycle of a root differs from that of the stem?
(a) Sclerenchymatous in root and collenchymatous in stem.
(b) Collenchymatous in root and parenchymatous in stem.
(c) Parenchymatous in root and sclerenchymatous in stem.
(d) Parenchymatous in root and collenchymatous in stem.

173. Collenchyma generally occurs
(a) In scattered dicot roots
(b) In a ring in monocot roots
(c) In patches under epidermis in dicot stem
(d) All the above

174. Phloem parenchyma is absent in
(a) Dicot root (b) Dicot leaf
(c) Monocot stem (d) Dicot stem

175. Collenchyma tissue is present in
(a) Dicot stem (b) Monocot stem
(c) Dicot root (d) Flowers

176. The vascular bundles in the stem of monocots are typically
(a) Collateral (b) Bicollateral
(c) Concentric (d) Radial

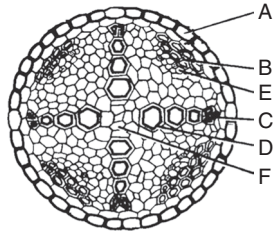
177. Sclerenchymatous sheath is present in vascular bundles of
(a) Monocot root (b) Dicot root
(c) Dicot stem (d) Monocot stem

178. In monocot roots which types of vascular bundles are found?
(a) Collateral, conjoint and closed
(b) Radial vascular bundle with exarch xylem
(c) Bicollateral, conjoint and closed
(d) Radial vascular bundle with endarch xylem

179. Lateral roots arise from
(a) Pericycle (b) Pith (c) Stem (d) Root

180. In dicot roots, the cells of which region show casparian strips?
(a) Cambium (b) Endodermis (c) Pericycle (d) Hypodermis

181. In the diagram of T.S. of Stele of Dicot Root, the different parts have been indicated by alphabets. Choose the answer in which these alphabets correctly match with the parts they indicate.



(a) A – Endodermis, B – Conjunctive tissue, C – Metaxylem, D – Protoxylem, E – Phloem, F – Pith
(b) A – Endodermis, B – Pith, C – Protoxylem, D – Metaxylem, E – Protoxylem, F – Conjuctive tissue
(c) A – Pericycle, B – Conjuctive tissue, C – Metaxylem, D – Protoxylem, F – Endodermis
(d) A – Endodermis, B – Conjuctive tissue, C – Protoxylem, D – Metaxylem, E – Phloem, F – Pith

182. In grasses,
(a) Certain adaxial epidermal cells along the veins modify themselves into large, empty, colourless cells. These are called bulliform cells.
(b) When the bulliform cells in the leaves absorb water and are turgid, the leaf surface is exposed.
(c) When bulliform cells are flaccid due to water stress, they make the leaves curl inwards to minimize the water loss.
(d) All are correct

ASSERTION AND REASON QUESTIONS

*Read the **assertion** and **reason** carefully to mark the correct option out of the options given below:*

(a) If both the assertion and the reason are true and the reason is a correct explanation of the assertion.
(b) If both the assertion and reason are true but the reason is not a correct explanation of the assertion .
(c) If the assertion is true but the reason is false.
(d) If both the assertion and reason are false.

183. **Assertion:** All tissues lying inside vascular cambium are called as bark.
Reason: Bark is made up of phellogen, phellem and phelloderm lying inside secondary phloem.

184. **Assertion:** Stomata are absent in submerged hydrophytes.
Reason: Respiration occurs by means of air chambers in submerged plants.

185. **Assertion:** Cambium is a lateral meristem and cause growth in width.
Reason: Cambium is made up of fusiform and ray initials in stem.

186. **Assertion:** Higher plants have meristematic regions for indefinite growth.
Reason: Higher plants have root and shoot apices.

187. **Assertion:** In collateral vascular bundles, the phloem is situated towards inner side.
Reason: In monocot stem, cambium is present.

188. **Assertion:** Thick cuticle is mostly present in disease resistant plants.
Reason: Disease causing agents cannot grow on cuticle and cannot invade the cuticle.

189. **Assertion:** Quiescent centre is found in the centre of the root apex.
Reason: It consists of actively dividing cells.

190. **Assertion:** Permanent tissue is composed of mature cells.
Reason: Meristematic tissue is a group of actively dividing cells.

191. **Assertion:** Intercalary meristem increases the length of plant like apical meristems.
Reason: Intercalary meristem originates from the apical meristems.

192. **Assertion:** The lenticel is meant for gaseous exchange.
Reason: Lenticel checks for excessive evaporation of water.

193. **Assertion:** Xerophytic leaves may contain stomatal crypts or sunken stomata.
Reason: Spongy parenchyma is more in xerophytic leaves.

194. **Assertion:** Isobilateral leaves are amphistomatic.
Reason: Mesophyll is not differentiated into palisade and spongy.

195. **Assertion:** Trichomes helps in preventing water loss due to transpiration.
Reason: On the stem, the epidermal hairs are called trichomes.

196. **Assertion:** Growth rings are also called as annual rings.
Reason: Generally the growth ring is formed in each year.

197. **Assertion:** Heartwood is more durable than the sapwood.
Reason: Heartwood contains organic compound like tannins, resins, oil, gumsaromatic substances and essential oils make it hard and more durable.

198. **Assertion:** Sugarcane shows Kranz anatomy.
Reason: In diocot leaves, the bundle sheath cells lack chloroplasts.

199. **Assertion:** Tracheids are dead cells.
Reason: Tracheids have lignified cell wall.

200. **Assertion:** Xylem provides mechanical strength to plant parts.
Reason: Xylem conducts water and mineral from root to stems and leaves.

201. **Assertion:** Stomata regulate the process of transpiration and gaseous exchange
Reason: Stomata are present in the cortex of stem

202. **Assertion:** Secondary growth won't occur in monocot stem.
Reason: Vascular bundles are closed in monocot stem.

203. **Assertion:** Vessels become dead at maturity
Reason: Initially cell possesses living protoplasm but due to lignin deposition in wall along with other thickening material they become dead.

204. **Assertion:** Cork cambium and vascular cambium are lateral meristem.
Reason: Both are involved in secondary growth of plant by addition of cells in lateral direction of main axis.

205. **Assertion:** Intrafascicular cambium is primary lateral meristem.
Reason: It is found in lateral side of plant main axis and derived from meristem of embryo.

206. **Assertion:** Aerenchyma found in aquatic plant.
Reason: It contains air cavities and provides buoyancy to aquatic plant.

207. **Assertion:** Collenchyma provides mechanical strength as well as elasticity.
Reason: Wall thickening in collenchymas is not uniform.

208. **Assertion:** Apical and intercalary meristems are primary meristem.
Reason: Both appear early in life and contribute to the formation of primary plant body.

209. **Assertion:** Lateral meristems are generally referred as secondary meristem.
Reason: These are responsible for production of secondary tissue.

210. **Assertion:** Parenchyma is simple tissue
Reason: It is made of only one type of cell.

211. **Assertion:** Xylem is complex tissue
Reason: Xylem is made up of more than one type of cells

212. **Assertion:** Sieve tube member and companion cells are called sister cells
Reason: Both derived from same mother cells and death of one results in death of other as well.

213. **Assertion:** Function of sieve tubes is controlled by nucleus of companion cells.
Reason: Companion cells help in maintaining the pressure gradient in sieve tubes.

214. **Assertion:** Cuticle prevent loss of water from epidermis
Reason: Cuticle is made up of waxy thick layer and cover epidermis

215. **Assertion:** Vascular bundle of dicot stem said to be open
Reason: Such vascular bundle contain cambium which possess ability to form secondary xylem and phloem tissue

216. **Assertion:** In dicot stem endodermis is referred as starch sheath
Reason: Cells of endodermis are rich in starch grains.

217. **Assertion:** Bulliform cells in grasses use to minimise water loss under water stem condition.
Reason: They are flaccid due to water stress and make the leaf curl inside thus minimise surface area for transpiration.

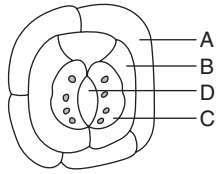
PREVIOUS YEAR QUESTIONS

1. Kranz anatomy is one of the characteristics of the leaves of

[AIPMT MAINS 2010]

(a) Potato (b) Wheat
(c) Sugarcane (d) Mustard

2. Give below is the diagram of a stomatal apparatus. In which of the following, all the four parts labelled as A, B, C, D are correctly identified?



[AIPMT MAINS 2010]

(a) A: Subsidiary cell, B: Epidermal cell, C: Guard cell, D: Stomatal aperture
(b) A: Guard cell, B: Stomatal aperature, C: Subsidiary cell, D: Epidermal cell
(c) A: Epidermal cell, B: Guard cell, C: Stomatal aperture, D: Subsidiary cell
(d) A: Epidermal cell, B: Subsidiary cell, C: Guard cell, D: Stomatal aperture

3. The chief water conducting elements of xylem in gymnosperms are

[AIPMT PRE 2010]

(a) Vessels
(b) Fibres
(c) Transfusion tissue
(d) Tracheids

4. Which one of the following is not a lateral meristem?

[AIPMT PRE 2010]

(a) Intrafascicular cambium
(b) Interfascicular cambium
(c) Phellogen
(d) Intercalary meristem

5. Heartwood differs from sapwood in

[AIPMT PRE 2010]

(a) Presence of rays and fibres
(b) Absence of vessels and parenchyma
(c) Having dead and non-conducting elements
(d) Being susceptible to pests and pathogens

6. Some vascular bundles are described as open because these

[AIPMT MAINS 2011]

(a) Are surrounded by pericycle but no endodermis.
(b) Are capable of producing secondary xylem and phloem.
(c) Possess conjunctive tissue between xylem and phloem.
(d) Are not surrounded by pericycle.

7. In Kranz anatomy, the bundle sheath cells have

[AIPMT MAINS 2011]

(a) Thin walls, many intercellular spaces and no chloroplasts.
(b) Thick walls, no intercellular spaces and large number of chloroplasts.
(c) Thin walls, no intercellular spaces and several chloroplasts.
(d) Thick walls, many intercellular spaces and few chloroplasts.

8. Ground tissue includes:

[AIPMT PRE 2011]

(a) All tissues except epidermis and vascular bundles
(b) Epidermis and cortex
(c) All tissues internal to endodermis
(d) All tissues external to endodermis

9. In land plants, the guard cells differ from other epidermal cells in having [AIPMT PRE 2011]

(a) Mitochondria (b) Endoplasmic reticulum
(c) Chloroplasts (d) Cytoskeleton

10. The cork cambium, cork and secondary cortex are collectively called [AIPMT PRE 2011]

(a) Phellogen (b) Periderm
(c) Phellem (d) Phelloderm

11. As compared to a dicot root, a monocot root has [AIPMT MAINS 2012]

(a) Many xylem bundles
(b) Inconspicuous annual rings
(c) Relatively thicker periderm
(d) More abundant secondary xylem

12. The common bottle cork is a product of [AIPMT PRE 2012]

(a) Dermatogen (b) Phellogen
(c) Xylem (d) Vascular Cambium

13. Closed vascular bundles lack [AIPMT PRE 2012]

(a) Ground tissue (b) Conjunctive tissue
(c) Cambium (d) Pith

14. Water containing cavities in vascular bundles are found in [AIPMT PRE 2012]

(a) Sunflower (b) Maize
(c) Cycas (d) Pinus

15. Gymnosperms are also called soft wood spermatophytes because they lack [AIPMT PRE 2012]

(a) Cambium (b) Phloem fibres
(c) Thick walled tracheids (d) Xylem fibres

16. Interfascicular cambium develops from the cells of [AIPMT 2013]

(a) Medullary rays (b) Xylem parenchyma
(c) Endodermis (d) Pericycle

17. Lenticels are involved in: [AIPMT 2013]

(a) Transpiration (b) Gaseous exchange
(c) Food transport (d) Photosynthesis

18. Age of a tree can be estimated by: [AIPMT 2013]

(a) Its height and girth (b) Biomass
(c) Number of annual rings (d) Diameter of its heartwood

19. You are given a fairly old piece of dicot stem and a dicot root. Which of the following anatomical structures will you use to distinguish between the two?

[AIPMT 2014]

(a) Secondary xylem (b) Secondary phloem
(c) Protoxylem (d) Cortical cells

20. Tracheids differ from other tracheary element in:

[AIPMT 2014]

(a) Having casparian strips (b) Being imperforate
(c) Lacking nucleus (d) Being lignified

21. Vascular bundles in monocotyledons are considered closed because:

[AIPMT 2015]

(a) A bundle sheath surrounds each bundles
(b) Cambium is absent
(c) There are no vessels with perforations
(d) Xylem is surrounded all around by phloem

22. A major characteristic of the monocot root is the presence of:

[AIPMT 2015]

(a) Open vascular bundles
(b) Scattered vascular bundles
(c) Vasculature without cambium
(d) Xylem along the radius

23. Read the different components from (a) to (d) in the list given below and tell the correct order of the components with reference to their arrangement from outer side to inner side in a woody dicot stem:

(a) Secondary cortex (b) Wood
(c) Secondary cortex (d) Phellem

The correct order is:

[RE-AIPMT 2015]

(a) (A), (b), (d), (c) (b) (d), (a), (c), (b)
(c) (d), (c), (a), (b) (d) (c), (d), (b), (a)

24. Specialized epidermal cells surrounding the guard cells are called: [NEET - I, 2016]

(a) Complementary cells (b) Subsidiary cells
(c) Bulliform cells (d) Lenticels

25. Cortex is the region found between: [NEET - II, 2016]

(a) Pericycle and endodermis
(b) Endodermis and pith
(c) Endodermis and vascular bundle
(d) Epidermis and stele

26. The balloon-shaped structures called tyloses [NEET - II, 2016]

(a) Characterize the sapwood
(b) Arte extensions of xylem parenchyma cells into vessels
(c) Are linked to the ascent of sap through xylem vessels
(d) Originate in the lumen of vessels

NCERT EXEMPLAR QUESTIONS

1. A transverse section of stem is stained first with safranin and then with fast green following the usual schedule of double staining for the preparation of a permanent slide. What would be the colour of the stained xylem and phloem?

(a) Red and green (b) Green and red
(c) Orange and yellow (d) Purple and orange

2. Match the followings and choose the correct option from below.

(a) Meristem	(i) Photosynthesis, storage
(b) Parenchyma	(ii) Mechanical support
(c) Collenchyma	(iii) Actively dividing cells
(d) Sclerenchyma	(iv) Stomata
(e) Epidermal tissue	(v) Sclereids

Options:

(a) (a)–(i), (b)–(iii), (c)–(v), (d)–(ii), (e)–(iv)
(b) (a)–(iii), (b)–(i), (c)–(ii), (d)–(iv), (e)–(v)
(c) (a)–(ii), (b)–(iv), (c)–(v), (d)–(i), (e)–(iii)
(d) (a)–(v), (b)–(iv), (c)–(iii), (d)–(ii), (e)–(i).

3. Match the followings and choose the correct option from below

(a) Cuticle	(i) Guard cells
(b) Bulliform cells	(ii) Single layer
(c) Stomata	(iii) Waxy layer
(d) Epidermis	(iv) Empty colourless cell

Options:

(a) (a)–(iii), (b)–(iv), (c)–(i), (d)–(ii)
(b) (a)–(i), (b)–(ii), (c)–(iii), (d)–(iv)
(c) (a)–(iii), (b)–(ii), (c)–(iv), (d)–(i)
(d) (a)–(iii), (b)–(ii), (c)–(i), (d)–(iv).

4. Identify the tissue system from among the following

(a) Parenchyma (b) Xylem
(c) Epidermis (d) Phloem

5. Cells of this tissue are living and show angular wall thickening. They also provide mechanical support. The tissue is

(a) Xylem (b) Sclerenchyma
(c) Collenchyma (d) Epidermis

6. The epiblema of roots is equivalent to

(a) Pericycle (b) Endodermis (c) Epidermis (d) Stele

7. A conjoint and open vascular bundle will be observed in the transverse section of

(a) Monocot root (b) Monocot stem
(c) Dicot root (d) Dicot stem

8. Interfascicular cambium and cork cambium are formed due to
(a) Cell division (b) Cell differentiation
(c) Cells dedifferentiation (d) Redifferentiation

9. Phellogen and phellem respectively denotes the
(a) Cork and cork cambium (b) Cork cambium and cork
(c) Secondary cortex and cork (d) Cork and secondary cortex

10. In which of the following pairs of parts of a flowering plant is epidermis absent?
(a) Root tip and shoot tip (b) Shoot bud and floral bud
(c) Ovule and seed (d) Petiole and pedicel

11. How many shoot apical meristems are likely to be present in a twig of a plant possessing 4 branches and 26 leaves?
(a) 26 (b) 1
(c) 5 (d) 30

12. A piece of wood having no vessels (tracheae) must belong to
(a) Teak (b) Mango
(c) Pine (d) Palm.

13. A plant tissue, when stained, showed the presence of hemicellulose and pectin in the cell wall of its cells. The tissue represents
(a) Collenchyma (b) Sclerenchyma
(c) Xylem (d) Meristem.

14. In conifers, the fibres are likely to be absent in
(a) Secondary phloem (b) Secondary Xylem
(c) Primary phloem (d) Leaves.

15. When we peel the skin of a potato tuber, we remove
(a) Periderm (b) Epidermis
(c) Cuticle (d) Sapwood

16. A vesselless piece of stem possessing prominent sieve tubes would belong to
(a) Pinus (b) Eucalyptus
(c) Grass (d) *Trochodendron*

17. Which one of the following cell types always divides by anticlinal cell division?
(a) Fusiform initial cells (b) Root cap
(c) Protoderm (d) Phellogen

18. What is the fate of primary xylem in a dicot root showing extensive secondary growth?
(a) It is retained in the centre of the axis. (b) It gets crushed.
(c) May or may not get crushed. (d) It gets surrounded by primary phloem.

Answer Keys

Practice Questions

1. (c)	2. (d)	3. (c)	4. (b)	5. (d)	6. (a)	7. (d)	8. (c)	9. (c)	10. (d)
11. (c)	12. (d)	13. (b)	14. (a)	15. (a)	16. (b)	17. (a)	18. (c)	19. (d)	20. (d)
21. (d)	22. (d)	23. (d)	24. (c)	25. (b)	26. (a)	27. (b)	28. (d)	29. (b)	30. (c)
31. (b)	32. (b)	33. (d)	34. (b)	35. (c)	36. (a)	37. (d)	38. (d)	39. (b)	40. (c)
41. (d)	42. (d)	43. (d)	44. (d)	45. (c)	46. (d)	47. (b)	48. (c)	49. (d)	50. (d)
51. (c)	52. (d)	53. (d)	54. (d)	55. (d)	56. (c)	57. (d)	58. (d)	59. (d)	60. (b)
61. (d)	62. (d)	63. (b)	64. (d)	65. (a)	66. (d)	67. (a)	68. (a)	69. (a)	70. (c)
71. (d)	72. (d)	73. (a)	74. (c)	75. (c)	76. (d)	77. (d)	78. (d)	79. (d)	80. (c)
81. (d)	82. (d)	83. (d)	84. (d)	85. (c)	86. (b)	87. (a)	88. (d)	89. (a)	90. (c)
91. (c)	92. (a)	93. (c)	94. (b)	95. (d)	96. (b)	97. (a)	98. (b)	99. (a)	100. (d)
101. (c)	102. (b)	103. (d)	104. (a)	105. (c)	106. (b)	107. (a)	108. (b)	109. (d)	110. (c)
111. (a)	112. (d)	113. (c)	114. (c)	115. (d)	116. (d)	117. (d)	118. (b)	119. (d)	120. (b)
121. (a)	122. (c)	123. (c)	124. (d)	125. (c)	126. (d)	127. (d)	128. (d)	129. (d)	130. (b)
131. (a)	132. (c)	133. (d)	134. (d)	135. (a)	136. (d)	137. (b)	138. (d)	139. (a)	140. (b)
141. (c)	142. (c)	143. (b)	144. (c)	145. (b)	146. (a)	147. (a)	148. (b)	149. (a)	150. (b)
151. (d)	152. (b)	153. (b)	154. (d)	155. (c)	156. (d)	157. (c)	158. (c)	159. (d)	160. (b)
161. (b)	162. (d)	163. (b)	164. (b)	165. (a)	166. (d)	167. (a)	168. (c)	169. (b)	170. (b)
171. (a)	172. (c)	173. (c)	174. (c)	175. (a)	176. (a)	177. (d)	178. (b)	179. (a)	180. (b)
181. (d)	182. (d)								

Assertion and Reason Questions

183. (d)	184. (b)	185. (b)	186. (a)	187. (d)	188. (a)	189. (c)	190. (a)	191. (a)	192. (b)
193. (c)	194. (b)	195. (b)	196. (a)	197. (a)	198. (c)	199. (a)	200. (b)	201. (c)	202. (a)
203. (a)	204. (a)	205. (a)	206. (a)	207. (a)	208. (a)	209. (a)	210. (a)	211. (a)	212. (a)
213. (b)	214. (a)	215. (a)	216. (a)	217. (a)					

Previous Year Questions

1. (c)	2. (d)	3. (d)	4. (d)	5. (c)	6. (b)	7. (b)	8. (a)	9. (c)	10. (b)
11. (a)	12. (b)	13. (c)	14. (b)	15. (c)	16. (a)	17. (b)	18. (c)	19. (c)	20. (b)
21. (b)	22. (c)	23. (b)	24. (b)	25. (d)	26. (b)				

NCERT Exemplar Questions

1. (a)	2. (b)	3. (a)	4. (a)	5. (c)	6. (c)	7. (d)	8. (c)	9. (b)	10. (a)
11. (c)	12. (c)	13. (a)	14. (b)	15. (a)	16. (d)	17. (c)	18. (a)		