Exercise - I (Conceptual Questions) Build Up Your Understanding

THE TISSUE (MERISTEMATIC TISSUE TO SIMPLE PERMANENT TISSUE)

1. A meristem may be defined as the group of cells which -
(1) Does not divide
(2) Conserve food
(3) Divide continuously to give rise to new cells.
(4) Elongate, mature and add to the group of cells.

BAP001

2. The length of different internodes in a culm of sugarcane is variable because of :-
(1) Position of axillary buds.
(2) Size of leaf lamina at the node below each internode.
(3) Intercalary meristem.
(4) Shoot apical meristem.

BAP118

3. The secondary meristem originates from-
(1) Promeristem
(2) Primary meristem
(3) Primary permanent tissue
(4) Secretory tissue

BAP006

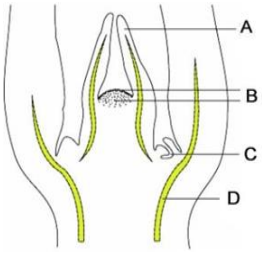
4. The function of root cap is-
(1) Provide protection to root apex
(2) Storage of food products
(3) Absorption of nutrients
(4) None of the above

BAP007

5. Aerenchyma is helpful to plants by :-
(1) Providing buoyancy to hydrophytes
(2) Promoting photosynthesis
(3) Give mechanical strength to plants
(4) Giving flexibility to plants

BAP009

6. Label the figure correctly.



(1) A= Shoot apical meristematic zone,
B= Leaf primordium,
C= Axillary bud,
D= Differentiating vascular tissue
(2) A= Leaf primordium,
B= Shoot apical meristematic zone,
C= Axillary bud,
D= Differentiating vascular tissue
(3) A= Axillary bud,
B= Leaf primordium,
C= Shoot apical meristematic zone,
D= Differentiating vascular tissue
(4) A= Axillary bud,
B= Shoot apical meristematic zone,
C= Leaf primordium,
D= Differentiating vascular tissue

BAP272

7. In plants, which of the following cells are living :-
(1) Xylem vessels (2) Meristem
(3) Cork (4) Fibres

BAP011

8. Which of the following tissues form the main bulk of storage organ-
(1) Parenchyma (2) Collenchyma
(3) Sclerenchyma (4) Aerenchyma

BAP012

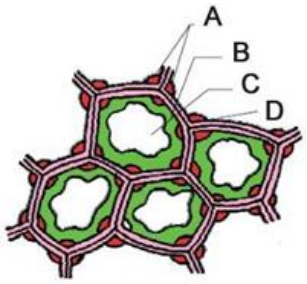
9. Mechanical tissue consisting of living cells is
(1) Sclerenchyma (2) Collenchyma
(3) Chlorenchyma (4) Parenchyma

BAP014

10. **Statement-1 :** Often collenchyma contain chloroplast.
Statement-2: Collenchyma with chloroplast assimilate food.
(1) Only statement 1 is correct.
(2) Only statement 2 is correct.
(3) Both 1 and 2 statements are incorrect.
(4) Both 1 and 2 statements are correct.

BAP273

11. Identify the following figure and label A, B, C and D.



(1) Collenchyma. A= Thickened corner B= Protoplasm, C= Vacuole, D= Cell wall
(2) Parenchyma. A= Thickened corners, B= Protoplasm, C= Vacuole, D= Cell wall
(3) Collenchyma. A= Thickened corner B= Vacuole, C= Protoplasm, D= Cell wall
(4) Sclerenchyma. A= Thickened corners, B= Protoplasm, C= Vacuole, D= Cell wall

BAP274

12. Read the following statements carefully and choose the correct option accordingly :-
(a) During the formation of leaves and elongation of stem, some cells "left behind" from shoot apical meristem.
(b) Meristem which occurs between mature tissue is known as intercalary meristem.
(c) Cylindrical meristems such as fascicular vascular cambium, interfascicular cambium and cork cambium are examples of apical meristem.
(d) During the formation of the primary plant body, specific regions of the lateral meristem produce dermal tissues, ground tissues and vascular tissues.
(1) Only a and c are correct
(2) Only a and d are correct
(3) Only a and b are correct
(4) Only a, b and c are correct

BAP275

13. Which one of the following is *not* a lateral meristem?
(1) Intercalary meristem
(2) Intrafascicular cambium
(3) Interfascicular cambium
(4) Phellogen

BAP123

COMPLEX PERMANENT TISSUE

14. Transport of food material in higher plants takes place through :
(1) Transfusion tissue (2) Tracheids
(3) Sieve elements (4) Companion cells

BAP126

15. Which of following plant cells are without vacuoles without nuclei and are dead -
(1) Cambium cells (2) Xylem vessels
(3) Root hairs (4) Companion cells

BAP018

16. The cell functionally associated with sieve tube element is -
(1) Phloem fibres
(2) Phloem Parenchyma
(3) Companion cell
(4) Collenchyma

BAP020

17. Vessels and companion cells are respectively present in the xylem and phloem of :-
(1) Gymnosperm (2) Pteridophyte
(3) Angiosperm (4) Bryophyta

BAP022

18. Phloem parenchyma is absent in :-
(1) Dicot stem (2) Dicot leaf
(3) Monocot stem (4) Dicot root
BAP023

19. Palisade parenchyma is *absent* in leaves of:-
(1) Gram (2) *Sorghum*
(3) Mustard (4) Soybean
BAP120

20. The chief function of a xylem vessel in a plant body is to -
(1) Conduct sap
(2) Conduct mineral salts only
(3) Eliminate excess of water at night
(4) Translocate organic nutrients
BAP025

21. Long and pointed sclerenchyma cells are
(1) Fibres (2) Tracheae
(3) Wood parenchyma (4) Sclereids
BAP027

22. The chief water conducting elements of xylem in gymnosperms are :
(1) Tracheids (2) Vessels
(3) Fibres (4) Transfusion tissue
BAP124

23. Which xylem element is living :-
(1) Vessels (2) Tracheids
(3) Fibre (4) Parenchyma
BAP035

24. Sugar transport elements of gymnosperms & pteridophytes are :-
(1) Sieve cells
(2) Sieve elements
(3) Sieve tubes
(4) Sieve tube elements
BAP060

25. Gymnosperms are also called soft wood spermatophytes because they lack :-
(1) Thick-walled tracheids
(2) Xylem fibres
(3) Cambium
(4) Phloem fibres
BAP131

TISSUE SYSTEM, VASCULAR BUNDLES

26. Ground tissue includes :-
(1) All tissues external to endodermis
(2) All tissues except epidermis and vascular bundles
(3) Epidermis and cortex
(4) All tissues internal to endodermis
BAP127

27. Bast fibres are mostly found in :-
(1) Secondary xylem
(2) Secondary phloem
(3) Primary phloem
(4) Primary xylem
BAP021

28. When xylem and phloem are on same radius, the vascular bundles are said to be -
(1) Radial
(2) Conjoint
(3) Concentric
(4) Exarch
BAP030

29. Conjoint collateral vascular bundles are found in :-
(1) Stem
(2) Leaf
(3) Root
(4) Both (1) and (2)
BAP276

30. The basic difference between stem and root is that xylem in stem is :-
(1) Endarch (2) Exarch
(3) Mesarch (4) Polyarch
BAP034

31. In which of the following order, an exarch xylem develops :-
(1) Centripetal
(2) Centrifugal
(3) Both centripetal & centrifugal
(4) Irregular
BAP051

32. **Statement-I :** The epidermal tissue systems are made of epidermal cells, stomata and the epidermal appendages.
Statement-II : The ground tissue system form the main bulk of the plant. It is divided into three zones-cortex pericycle and pith.
(1) Statement I and II both are correct.
(2) Statement I and II both are incorrect.
(3) Only statement I is correct
(4) Only statement II is correct.
BAP277

33. Pith is produced by :-
(1) Ground meristem
(2) Procambium
(3) Periblem
(4) Dermatogen
BAP059

34. When protoxylem faces pericycle, it is called :-
(1) Endarch (2) Mesarch
(3) Exarch (4) Polyarch
BAP061

35. External protective tissues are :-
(1) Cortex and epidermis
(2) Cork and pericycle
(3) Cortex and pericycle
(4) Cork and epidermis
BAP071

36. Gymnosperm wood is non-porous because it
(1) Lacks vessels
(2) Contains tracheae
(3) Has abundant fibres
(4) Contains no fibres
BAP090

37. Porous wood is characterised by :-
(1) Absence of tracheids
(2) Presence of vessels
(3) Absence of vessels
(4) Presence of sieve-tubes
BAP091

38. Intrafascicular cambium is situated :-
(1) In between the vascular bundles
(2) Inside the vascular bundles
(3) Outside the vascular bundles
(4) In pith
BAP095

39. Radial vascular bundles are found in :-
(1) Only dicot root
(2) Only monocot root
(3) Only Pteridophyta
(4) Roots of vascular plants
BAP103

ANATOMY OF DICOT AND MONOCOT (ROOT)

40. In dicot root :-
(1) Vascular bundles are scattered with cambium.
(2) Vascular bundles are open and arranged in a ring.
(3) Xylem and pholem are radial.
(4) Xylem is always endarch.
BAP047

41. A dicot root differs from a monocot root in which of the following-
(1) Presence of piliferous layer.
(2) Presence of exodermis.
(3) Presence of ill-developed (Poorly developed) pith.
(4) Separate radial vascular bundle.
BAP048

42. Polyarch and exarch xylem is the characteristic of :-
(1) Dicot stem (2) Dicot root
(3) Monocot stem (4) Monocot root
BAP049

43. Passage cells are found in endodermis of-
(1) Dicot stem (2) Monocot stem
(3) Orchid stem (4) Monocot root
BAP058

44. Passage cells are thin-walled cells found in:-
(1) Central region of style through which the pollen tube grows towards the ovary.
(2) Endodermis of roots facilitating rapid transport of water from cortex to pericycle
(3) Phloem elements that serve as entry points for substances for transport to other plant parts
(4) Testa of seeds to enable emergence of growing embryonic axis during seed germination.

BAP116

45. Monocot root is differ from dicot root in having :
(1) Open vascular bundle
(2) Scattered vascular bundle
(3) Large pith
(4) Radial vascular bundle

BAP098

46. Casparian strip is found in :-
(1) Epidermis (2) Endodermis
(3) Endothecium (4) Endothelium

BAP104

ANATOMY OF DICOT AND MONOCOT (STEM)

47. In barley stem vascular bundles are :-
(1) Closed and radial
(2) Open and scattered
(3) Closed and scattered
(4) Open and in a ring

BAP119

48. Collenchymatous hypodermis is characteristic feature of :-
(1) Dicot stem
(2) Monocot stem
(3) Monocot as well as dicot stem
(4) Hydrophytes

BAP043

49. Innumerable (many) vascular bundles, lack of cambium and lack of a well demarcated pith is found in :-
(1) Sugarcane, Grass
(2) Sunflower, Neem
(3) Radish, Neem
(4) Pea, Peepal

BAP044

50. **Cortex** and **pith** are not distinguished in :-
(1) Monocot stem (2) Monocot root
(3) Dicot stem (4) Dicot root

BAP045

51. What is the characteristics of a vascular bundle of monocot stem -
(1) Open and surrounded by a sclerenchymatous bundle sheath.
(2) Closed and not surrounded by bundle sheath.
(3) Closed and surrounded by bundle sheath.
(4) Open and not surrounded by a bundle sheath.

BAP046

52. Water cavity & V or Y-shaped xylem occurs in
(1) Dicot stem
(2) Monocot root
(3) Monocot stem
(4) Dicot root

BAP050

53. Vascular bundles are scattered in ground tissue in :-
(1) Maize stem (2) Sunflower stem
(3) Gram root (4) Isobilateral leaf

BAP056

54. The hypodermis present in maize stem is -
(1) Parenchymatous
(2) Collenchymatous
(3) Sclerenchymatous
(4) Meristematic

BAP057

55. How many types of cells are present in vascular cambium of dicot stem
(1) Two types, fusiform & ray initial
(2) Only fusiform initial
(3) Only ray initial
(4) Three types fusiform, ray and medullary rays.

BAP079

56. In monocot stems, secondary growth cannot occur because vascular bundles are
(1) Scattered (2) Open
(3) Closed (4) Radial

BAP089

57. There is no result of 'Girdling Experiment' in monocot plants, due to :-
(1) Presence of wax layer on the surface of its stem.
(2) Stem is comparatively thin.
(3) Phloem is inside xylem.
(4) Vascular bundles are not in specific position.

BAP101

58. Conjoint, Collateral, open vascular bundle and vascular bundles are arranged in a ring in :-
(1) Dicot stem (2) Monocot stem
(3) Monocot root (4) Dicot Root

BAP102

ANATOMY OF DICOT AND MONOCOT (LEAF)

59. Position of xylem & phloem in leaf respectively -
(1) Abaxial & Adaxial (2) Adaxial & Abaxial
(3) Both Adaxial (4) Both abaxial

BAP053

60. In leaves, the vascular bundles are :
(1) Bicollateral & open
(2) Collateral & open
(3) Collateral & closed
(4) Radial & exarch

BAP055

SECONDARY GROWTH

61. For a critical study of secondary growth in plants, which one of the following pairs is suitable?
(1) Wheat and maiden hair fern
(2) Sugarcane and sunflower
(3) Teak and pine
(4) Deodar and fern

BAP115

62. In dicot stem, hypodermis is
(1) Parenchymatous
(2) Sclerenchymatous
(3) Collenchymatous
(4) Chlorenchymatous

BAP054

63. Which wood conduct sap :-
(1) Heart wood
(2) Sap wood
(3) Wood with lots of fibres and tyloses
(4) All of the above

BAP062

64. Phelloderm is formed by :-
(1) Vascular cambium
(2) Phellogen
(3) Fascicular cambium
(4) Interfascicular cambium

BAP063

65. Dendrochronology is the study of determination of :-
(1) Height of a tree
(2) Diameter of a tree
(3) Age of a tree with the help of annual rings
(4) Counting of the number of branches

BAP064

66. A timber merchant told his customer that log of wood which he was purchasing comes from a 20 years old tree, he told so by inspecting the :-

(1) Diameter of log
(2) Thickness of the heart wood
(3) Number of cork layers
(4) Annual rings

BAP065

67. In trees, the annual rings represent :-
(1) Primary xylem (2) Secondary xylem
(3) Secondary phloem (4) Cambium

BAP066

68. Annual rings are formed due to the activity of:
(1) Intrastelar cambium
(2) Intercalary cambium
(3) Extrastelar cambium
(4) Primary cambium

BAP068

69. When a tree grows older which of the following increased rapidly :-
(1) Heart wood (2) Sap wood
(3) Pith (4) Cortex

BAP069

70. Which of the following provide maximum mechanical strength to a tree trunk.
(1) Heart wood (2) Sap wood
(3) Cork (4) Late wood

BAP072

71. Extra stelar secondary growth in dicot stem occurs due to the activity of
(1) Intrafascicular cambium
(2) Interfascicular cambium
(3) Vascular cambium
(4) Cork cambium

BAP073

72. Normally secondary growth takes place in -
(1) Dicots & Monocots
(2) Gymnosperms & Monocots
(3) Dicots & Gymnosperms
(4) Only in dicots

BAP074

73. Formation of which tissue is example of dedifferentiation
(1) Interfascicular cambium
(2) Apical meristem
(3) Intrafascicular cambium
(4) Intercalary meristem

BAP075

74. What is the fate of primary phloem in dicot stem after sec growth
(1) Compresses outside and degenerates
(2) Compresses inside and degenerates
(3) Becomes part of sec phloem
(4) Modifies in sclerenchyma

BAP076

75. Which tissue remains more active during spring
(1) Cork cambium
(2) Vascular cambium
(3) Parenchyma
(4) Sclerenchyma

BAP077

76. Cork cambium is
(1) Always primary meristem
(2) Always secondary meristem
(3) May be secondary or primary meristem
(4) Partly primary & partly secondary meristem

BAP080

77. Normally in dicot stems, phellogen develops from :-
(1) Hypodermis
(2) Phellem
(3) Endodermal cells
(4) Epidermal & pericycle cells

BAP081

78. Suberin in chiefly deposited in the cells of :-
(1) Sclerenchyma
(2) Collenchyma
(3) Cork
(4) Phelloderm

BAP082

79. Which of the following is a meristematic tissue:
(1) Phellem (2) Phellogen
(3) Phelloderm (4) Periderm
BAP083

80. The common bottle cork is a product of :-
(1) Xylem (2) Vascular Cambium
(3) Dermatogen (4) Phellogen
BAP135

81. Secondary growth in dicots and gymnosperms occurs by :-
(1) Formation of vascular rays.
(2) Thickening of tracheary elements.
(3) Formation of meristematic cells in vascular region.
(4) Development of meristematic cells in vascular & cortical regions.
BAP085

82. The balloon like outgrowths of parenchyma in the lumen of a vessel are known as
(1) Histogen (2) Tyloses
(3) Phellogen (4) Tunica
BAP086

83. Which of the following tissues originate from ray initials of cambium
(1) Tracheids & vessels
(2) Sieve tubes & companion cells
(3) Xylem & phloem fibres
(4) Radial rows of parenchyma
BAP087

84. Cork is an excellent material for making bottle stopper because it is
(1) Cheap
(2) Easily available
(3) Air tight
(4) Light
BAP088

85. Secondary growth is the production of
(1) New tissues from intercalary meristem
(2) New conduction cells
(3) New tissues from lateral meristem
(4) New ground cells
BAP093

86. Each annual ring consists of two strips of
(1) Autumn & spring wood
(2) Heart wood & sap wood
(3) Xylem and phloem
(4) Cork & cortex
BAP094

87. An example of monocots showing secondary growth in stem is
(1) *Lilium* (2) *Pea*
(3) *Asparagus* (4) *Yucca*
BAP096

88. Heartwood differs from sapwood in :
(1) Being susceptible to pests and pathogens
(2) Presence of rays and fibres
(3) Absence of vessels and parenchyma
(4) Having dead and non-conducting elements
BAP125

89. Autumn wood can be differentiated from spring wood by :-
(1) Broad vessels and tracheids
(2) Narrow vessels and tracheids
(3) Red colour of xylem
(4) Cambium
BAP099

90. Vascular cambium forms :-
(1) Secondary xylem & Secondary phloem
(2) Primary xylem & Primary Phloem
(3) Only Secondary phloem
(4) Only Primary xylem
BAP100

Exercise-I (Conceptual Questions) ANSWER KEY

Question	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Answer	3	3	3	1	1	2	2	1	2	4	1	3	1	3	2
Question	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Answer	3	3	3	2	1	1	1	4	1	2	2	2	2	4	1
Question	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
Answer	1	1	1	3	4	1	2	2	4	3	3	4	4	2	3
Question	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Answer	2	3	1	1	1	3	3	1	3	1	3	4	1	2	3
Question	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75
Answer	3	3	2	2	3	4	2	1	1	1	4	3	1	1	2
Question	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90
Answer	2	1	3	2	7	4	2	4	3	3	1	4	4	2	1

Exercise - II (Previous Year Questions) AIPMT/NEET

AIPMT 2014

1. 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?
(1) Secondary xylem
(2) Secondary phloem
(3) Protoxylem
(4) Cortical cells

BAP139

2. Tracheids differ from other tracheary elements in:
(1) Having casparian strips
(2) Being imperforate
(3) Lacking nucleus
(4) Being lignified

BAP140

AIPMT 2015

3. A major characteristic of the monocot root is the presence of :
(1) Scattered vascular bundles
(2) Vasculature without cambium
(3) Cambium sandwiched between phloem and xylem along the radius
(4) Open vascular bundles

BAP141

4. In a ring girdled plant:
(1) The root dies first
(2) The shoot and root die together
(3) Neither root nor shoot will die
(4) The shoot dies first

BAP142

5. Vascular bundles in monocotyledons are considered closed because:
(1) Cambium is absent
(2) There are no vessels with perforations
(3) Xylem is surrounded all around by phloem
(4) A bundle sheath surrounds each bundle

BAP143

Re-AIPMT 2015

6. 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 phloem (d) Phellem
The correct order is :
(1) (d), (c), (a), (b) (2) (c), (d), (b), (a)
(3) (a), (b), (d), (c) (4) (d), (a), (c), (b)

BAP144

NEET-I 2016

7. Specialised epidermal cells surrounding the guard cells are called :-
(1) Complementary cells
(2) Subsidiary cells
(3) Bulliform cells
(4) Lenticels

BAP145

NEET-II 2016

8. Cortex is the region found between :-
(1) Endodermis and pith
(2) Endodermis and vascular bundle
(3) Epidermis and stele
(4) Pericycle and endodermis

BAP146

9. The balloon-shaped structures called tyloses :-
(1) Are extensions of xylem parenchyma cells into vessels
(2) Are linked to the ascent of sap through xylem vessels
(3) Originate in the lumen of vessels
(4) Characterize the sapwood

BAP147

NEET(UG) 2017

10. The vascular cambium normally gives rise to
(1) Primary phloem (2) Secondary xylem
(3) Periderm (4) Phelloderm

BAP148

11. Which of the following is made up of dead cells?
(1) Collenchyma (2) Phellem
(3) Phloem (4)Xylem parenchyma

BAP149

12. Identify the wrong statement in context of heartwood:
(1) It is highly durable
(2) It conducts water and minerals efficiently
(3) It comprises dead elements with highly lignified walls
(4) Organic compounds are deposited in it

BAP150

NEET (UG) 2018

13. Stomata in grass leaf are
(1) Dumb-bell shaped (2) Kidney shaped
(3) Rectangular (4) Barrel shaped

BAP151

14. Secondary xylem and phloem in dicot stem are produced by
(1) Apical meristems
(2) Vascular cambium
(3) Phellogen
(4) Axillary meristems

BAP152

15. Casparian strips occur in
(1) Epidermis
(2) Pericycle
(3) Cortex
(4) Endodermis

BAP153

16. Plants having little or no secondary growth are:
(1) Grasses
(2) Deciduous angiosperms
(3) Conifers
(4) Cycads

BAP154

NEET(UG) 2019

17. Xylem translocates :-
(1) Water only
(2) Water and mineral salts only
(3) Water, mineral salts and some organic nitrogen only
(4) Water, mineral salts, some organic nitrogen and hormones

BAP155

18. Grass leaves curl inwards during very dry weather. Select the most appropriate reason from the following :
(1) Closure of stomata
(2) Flaccidity of bulliform cells
(3) Shrinkage of air spaces in spongy mesophyll
(4) Tyloses in vessels

BAP156

19. Phloem in gymnosperms lacks :
(1) Albuminous cells and sieve cells
(2) Sieve tubes only
(3) Companion cells only
(4) Both sieve tubes and companion cells

BAP157

20. Which of the statements given below is **not** true about formation of Annual Rings in trees?

(1) Annual ring is a combination of spring wood and autumn wood produced in a year.

(2) Differential activity of cambium causes light and dark bands of tissue - early and late wood respectively

(3) Activity of cambium depends upon variation in climate.

(4) Annual rings are not prominent in trees of temperate region.

BAP158

NEET(UG) 2019 (Odisha)

21. In the dicot root the vascular cambium originates from :-

(1) Tissue located below the phloem bundles and a portion of pericycle tissue above protoxylem.

(2) Cortical region.

(3) Parenchyma between endodermis and pericycle.

(4) Intrafascicular and interfascicular tissue in a ring.

BAP159

22. Regeneration of damaged growing grass following grazing is largely due to :-

(1) Lateral meristem

(2) Apical meristem

(3) Intercalary meristem

(4) Secondary meristem

BAP160

NEET (UG) 2020

23. The transverse section of a plant shows following anatomical features:

(a) Large number of scattered vascular bundles surrounded by bundle sheath.

(b) Large conspicuous parenchymatous ground tissue.

(c) Vascular bundles conjoint and closed.

(d) Phloem parenchyma absent.

Identify the category of plant and its part :-

(1) Dicotyledonous root

(2) Monocotyledonous stem

(3) Monocotyledonous root

(4) Dicotyledonous stem

BAP161

24. Identify the **incorrect** statement.

(1) Due to deposition of tannins, resins, oils etc., heart wood is dark in colour

(2) Heart wood does not conduct water but gives mechanical support

(3) Sapwood is involved in conduction of water and minerals from root to leaf

(4) Sapwood is the innermost secondary xylem and is lighter in colour

BAP162

NEET (UG) 2020 (COVID-19)

25. Large, empty colourless cells of the adaxial epidermis along the veins of grass leaves are

(1) Lenticels

(2) Guard cells

(3) Bundle sheath cells

(4) Bulliform cells

BAP163

26. Which of the following statements about cork cambium is **incorrect**?

(1) It forms secondary cortex on its outer side

(2) It forms a part of periderm

(3) It is responsible for the formation of lenticels

(4) It is a couple of layers thick

BAP164

NEET (UG) 2021

27. Match **List-I** with **List-II.**

List-I		List-II	
(a)	Cells with active cell division capacity	(i)	Vascular tissues
(b)	Tissue having all cells similar in structure and function	(ii)	Meristematic tissue
(c)	Tissue having different types of cells	(iii)	Sclereids
(d)	Dead cells with highly thickened walls and narrow lumen	(iv)	Simple tissue

Select the **correct** answer from the options given below.

	(a)	**(b)**	**(c)**	**(d)**
(1)	(ii)	(iv)	(i)	(iii)
(2)	(iv)	(iii)	(ii)	(i)
(3)	(i)	(ii)	(iii)	(iv)
(4)	(iii)	(ii)	(iv)	(i)

BAP165

28. Match **List -I** with **List -II.**

List-I		List-II	
(a)	Lenticels	(i)	Phellogen
(b)	Cork cambium	(ii)	Suberin deposition
(c)	Secondary cortex	(iii)	Exchange of gases
(d)	Cork	(iv)	Phelloderm

Choose the **correct** answer from the options given below.

	(a)	**(b)**	**(c)**	**(d)**
(1)	(iv)	(i)	(iii)	(ii)
(2)	(iii)	(i)	(iv)	(ii)
(3)	(ii)	(iii)	(iv)	(i)
(4)	(iv)	(ii)	(i)	(iii)

BAP166

29. Select the **correct** pair.

(1) Large colorless empty cells in the epidermis of grass leaves – Subsidiary cells

(2) In dicot leaves, vascular bundles are surrounded by large thick-walled cells – Conjunctive tissue

(3) Cells of medullary rays that form part of cambial ring – Interfascicular cambium

(4) Loose parenchyma cells rupturing the epidermis and forming a lens-shaped opening in bark – Spongy parenchyma

BAP167

Re-NEET(UG) 2021

30. Read A to D and tell the correct order of components from outer side to inner side in a young dicot stem.

(A) Cortex (B) Pericycle

(C) Epidermis (D) Pith

(1) C, D, B, A (2) A, B, C, D

(3) C, A, B, D (4) C, B, A, D

BAP259

31. During secondary growth in dicot stem, cork cambium or phellogen usually develops in

(1) Epidermal region

(2) Cortex region

(3) Pericycle region

(4) Pith region

BAP260

32. Transport of water and mineral in higher plants takes place through

(1) Sieve elements

(2) Companion cells

(3) Tracheids

(4) Transfusion tissue

BAP261

NEET (UG) 2022

33. Read the following statements about the vascular bundles :-

(a) In roots, xylem and phloem in a vascular bundle are arranged in an alternate manner along the different radii.

(b) Conjoint closed vascular bundles do not process cambium.

(c) In open vascular bundles, cambium is present in between xylem and phloem.

(d) The vascular bundles of dicotyledonous stem possess endarch protoxylem.

(e) In monocotyledonous root, usually there are more than six xylem bundles present.

Choose the **correct** answer from the options given below :-

(1) (b), (c), (d) and (e) only

(2) (a), (b), (c) and (d) only

(3) (a), (c), (d) and (e) only

(4) (a), (b) and (d) only

BAP262

34. The anatomy of springwood shows some peculiar features. Identify the correct set of statements about springwood.

(a) It is also called as the earlywood

(b) In spring season cambium produces xylem elements with narrow vessels

(c) It is lighter in colour.

(d) The springwood along with autumn-wood shows alternate concentric rings forming annual rings.

(e) It has lower density

Choose the **correct** answer from the options given below :-

(1) (a), (c), (d) and (e) only

(2) (a), (b) and (d) only

(3) (c), (d) and (e) only

(4) (a), (b), (d) and (e) only

BAP170

NEET (UG) 2022 (Overseas)

35. Select the correct statement related to the activity of cork cambium.

(1) The cork differentiated from cork cambium, is impervious to water due to deposition of tannins and resins

(2) Cuts the cells only on the outer side

(3) Cuts the cells on inner as well as outer side.

(4) The outer cells differentiate into phelloderm

BAP263

36. Axillary buds are derived from the activity of:

(1) Secondary meristem

(2) Apical meristem

(3) Intercalary meristem

(4) Lateral meristem

BAP264

37. Which of the following is not a character of collenchyma tissue?

(1) They occur in layers below epidermis in dicotyledonous plants.

(2) They consists of cells with thick corners due to cellulose deposition

(3) They are usually dead and without protoplasts.

(4) They provide mechanical support to the growing part of the plant

BAP265

Re-NEET (UG) 2022

38. Initiation of lateral roots and vascular cambium during secondary growth takes place in cells of :

(1) Epiblema (2) Cortex

(3) Endodermis (4) Pericycle

BAP171

39. The type of tissue commonly found in the fruit wall of nuts is :

(1) Parenchyma (2) Collenchyma

(3) Sclerenchyma (4) Sclereid

BAP172

40. Interfascicular cambium is present between

(1) Primary xylem and primary phloem

(2) Pericycle and endodermis

(3) Two vascular bundles

(4) Secondary xylem and secondary phloem

BAP266

NEET (UG) 2023

41. Given below are two statements :-

Assertion (A) : Late wood has fewer xylary elements with narrow vessels.

Reason (R) : Cambium is less active in winters.

In the light of the above statements, choose the **correct** answer from the options given below :-

(1) Both **A** and **R** are true but **R** is NOT the correct explanation of **A**.

(2) **A** is true but **R** is false.

(3) **A** is false but **R** is true.

(4) Both **A** and **R** are true and **R** is the correct explanation of **A**.

BAP267

42. Given below are two statements :-

Statement-I : Endarch and exarch are the terms often used for describing the position of secondary xylem in the plant body.

Statement-II : Exarch condition is the most common feature of the root system.

In the light of the above statements, choose the correct answer from the options given below :-

(2) Both Statement I and Statement II are false

(3) Statement I is true but Statement II is false

(4) Statement I is false but Statement II is true

(1) Both Statement I and Statement II are true

BAP268

43. Identify the correct statements:

A. Lenticels are the lens-shaped openings permitting the exchange of gases.

B. Bark formed early in the season is called hard bark.

C. Bark is a technical term that refers to all tissues exterior to vascular cambium.

D. Bark refers to periderm and secondary phloem.

E. Phellogen is single-layered in thickness.

Choose the correct answer from the options given below:

(1) A and D only

(2) A, B and D only

(3) B and C only

(4) B, C and E only

BAP269

NEET (UG) 2023 (Manipur)

44. The transverse section of a plant part showed polyarch, radial and exarch xylem, with endodermis and pericycle. The plant part is identified as :

(1) Monocot root

(2) Dicot root

(3) Dicot stem

(4) Monocot stem

BAP270

45. Consider the following plant tissues :
(A) Axillary buds
(B) Fascicular vascular cambium
(C) Interfascicular cambium
(D) Cork cambium
(E) Intercalary meristem
Identify the lateral meristems among the above.
(1) (A), (C) and (D) only
(2) (B), (C) and (D) only
(3) (A), (B), (C) and (E) only
(4) (A), (B), (D) and (E) only

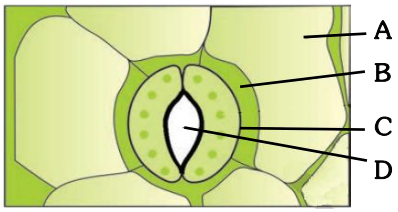
BAP271

NEET (UG) 2024

46. Bulliform cells are responsible for
(1) Inward curling of leaves in monocots.
(2) Protecting the plant from salt stress.
(3) Increased photosynthesis in monocots.
(4) Providing large spaces for storage of sugars.

BAP278

47. In the given figure, which component has thin outer walls and highly thickened inner walls?



(1) C (2) D (3) A (4) B

BAP279

48. Formation of interfascicular cambium from fully developed parenchyma cells is an example for :-
(1) Differentiation
(2) Redifferentiation
(3) Dedifferentiation
(4) Maturation

BAP280

Re-NEET (UG) 2024

49. Which of the following simple tissues are commonly found in the fruit walls of nuts and pulp of pear ?
(1) Sclereids (2) Fibres
(3) Parenchyma (4) Collenchyma

BAP281

50. Which one of the following is **not** found in Gymnosperms?
(1) Sieve cells (2) Albuminous cells
(3) Tracheids (4) Vessels

BAP282

51. Which of the following helps in maintenance of the pressure gradient in sieve tubes ?
(1) Albuminous cells
(2) Sieve cells
(3) Phloem parenchyma
(4) Companion cells

BAP283

52. Given below are two statements :-
Statement-I : In a dicotyledonous leaf, the adaxial epidermis generally bears more stomata than the abaxial epidermis.
Statement-II : In a dicotyledonous leaf, adaxially placed palisade parenchyma is made up of elongated cells, which are arranged vertically and parallel to each other.
In the light of the above statements, choose the **correct** answer from the options given below :-
(1) Statement I is true but Statement II is false
(2) Statement I is false but Statement II is true
(3) Both Statement I and Statement II are true
(4) Both Statement I and Statement II are false

BAP284

Exercise-II (Previous Year Questions) ANSWER KEY

Question	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Answer	3	2	2	1	1	4	2	3	1	2	2	2	1	2	4
Question	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Answer	1	4	2	4	4	1	3	2	4	4	1	1	2	3	3
Question	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
Answer	2	3	1	1	3	2	3	4	4	3	4	3	1	1	2
Question	46	47	48	49	50	51	52								
Answer	1	1	3	1	4	4	2								

Exercise - III Master Your Understanding

(A) NCERT BASED QUESTIONS

1. Branch of botany related with study of internal structure of plants.
(1) Cytology (2) Anatomy
(3) Physiology (4) Ecology

BAP173

2. A tissue is a group of cells having a -
(1) Common origin and dissimilar in function.
(2) Dissimilar origin and common in function.
(3) Dissimilar origin and common in function
(4) Common origin and usually preforming a common function.

BAP174

3. In embryonic stage, cells are
(1) Collenchymatous
(2) Sclerenchymatous
(3) Meristematic
(4) Parenchymatous

BAP175

4. Apical meristem is present
(1) At the tips of roots
(2) At the tips of shoots
(3) In buds which are present in axils of leaves
(4) All of the above

BAP176

5. Which of the following is an example of primary meristem
(1) Phellogen
(2) Vascular cambium of root
(3) Inter fascicular cambium
(4) Intra fascicular cambium

BAP177

6. Which of the following are examples of lateral meristems
(1) Fascicular vascular cambium
(2) Inter-fascicular cambium
(3) Cork cambium
(4) All of the above

BAP178

7. Find out the **correct match** pairs from the given table:-

	Column-I	Column-II	Column-III
i	Dicot stems	Pericycle	only collenchyma
ii.	Monocot stems	Closed vascular bundle	cambium absent
iii.	Dicot roots	Casparian strips	suberised
iv.	Monocot roots	Hypodermis	collenchyma

(1) i, iv (2) i, ii, iii
(3) ii, iii (4) i, iii, iv

BAP285

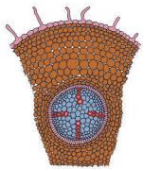
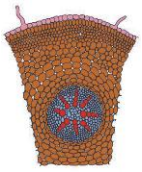
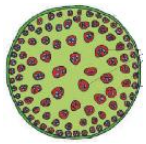
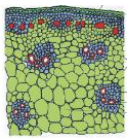
8. Which of the following statement(s) is/are true about parenchyma?
(1) The cells are generally isodiametric
(2) The cells may either be closely packed or have intercellular spaces.
(3) It performs various functions like photosynthesis, storage & secretion.
(4) All of the above

BAP180

9. Which of the following tissue provides mechanical support to the growing parts of the plant such as young stem and petiole of a leaf.
(1) Parenchyma (2) Collenchyma
(3) Sclereids (4) Fibres

BAP181

10. Which of the following is observed in sunflower plant ?

(1) 
(2) 
(3) 
(4) 

BAP286

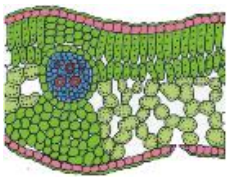
11. Companion cells are present in the phloem of
(1) Pteridophytes (2) Gymnosperms
(3) Angiosperms (4) Both (1) and (2)

BAP183

12. Vessels differ from tracheids in having
(1) In being living
(2) Presence of perforation plates at both ends
(3) Enucleated condition
(4) All of the above

BAP184

13. Identify the given diagramatic sketch and select the **correct** option in respect of diagram?



(1) Hypostomatic leaf
(2) Amphistomatic leaf
(3) Found in monocot plant
(4) Presence of bulliform cells towards abaxial surface.

BAP287

14. When a meristematic tissue "Intra fascicular cambium" is present inside a vascular bundle, the vascular bundle is called
(1) Conjoint (2) Open
(3) Closed (4) Radial

BAP186

15. Which of the following is not included in stomatal apparatus
(1) Stomatal aperture
(2) Guard cells
(3) Subsidiary cells
(4) Sclerenchymatous cells

BAP187

16. Consider the following statements.
(a) Phloem fibres are made up of sclerenchymatous cells.
(b) Phloem parenchyma are generally present in monocots.
(c) The first formed primary phloem consists of narrow sieve tube and is referred to as protophloem and the later formed phloem has bigger sieve tubes and is referred to as metaphloem.
Which statement(s) is/are false ?
(1) Only a (2) Only b
(3) Only c (4) a, b, and c

BAP188

17. The outside of the epidermis is often covered with a waxy thick layer, called
(1) Hypodermis
(2) Cuticle
(3) Root hair
(4) Stem hair

BAP189

18. Cuticle is absent in
(1) Roots (2) Dicot Stem
(3) Leaves (4) Monocot stem

BAP190

19. In which plant vascular bundles are scattered in ground tissue and each vascular bundle is surrounded by sclerenchymatous bundle sheath
(1) Maize (2) Sunflower
(3) Gram (4) *Ficus*

BAP191

20. In below mentioned structure, how many structures are having 'Exarch' condition of vascular bundles.
'Dicot stem, Dicot root, Monocot stem, monocot root, Isobilateral leaf, Dorsivendral leaf'.
(1) 4 (2) 3
(3) 2 (4) All of these

BAP288

21. The dicot root is identified from the monocot root by the presence of
(1) Exarch xylem
(2) 2-4 xylem bundles
(3) > 6 xylem bundles
(4) Large and well developed pith

BAP193

22. Parenchymatous cells with large intercellular spaces which occupy the central portion of the stem constitute
(1) Cortex (2) Pith
(3) Hypodermis (4) Epidermis

BAP194

23. In grasses, certain adaxial epidermal cells along the veins modify themselves into large, empty, colourless cells. These cells are called
(1) Bulliform cells
(2) Starch sheath cells
(3) Companion cells
(4) Complimentary cells

BAP195

24. In dicot stem, the cells of cambium present between primary xylem and primary phloem is the
(1) Interfascicular cambium
(2) Vascular cambium
(3) Intra fascicular cambium
(4) Cork cambium

BAP196

25. The innermost layer of cortex of dicot root is characterised by presence of suberin thickening. This suberin thickening occurs on
(1) Radial walls (2) Transverse wall
(3) Tangential wall (4) Both (1) & (3)

BAP197

26. Identify correct match from the column-I, II and III.

	Column-I	Column-II		Column-III	
(1)	Epidermis	(a)	Trichomes	(i)	Dicot root
(2)	Hypodermis	(b)	Casparian strips	(ii)	Monocot stem
(3)	Endodermis	(c)	Incons-picuous	(iii)	Dicot stem
(4)	Pith	(d)	Scleren-chymatous	(iv)	Monocot root

(1) 2-a-iii, 1-d-ii, 3-b-i, 4-c-i
(2) 1-a-iii, 2-b-ii, 3-d-iv, 4-c-i
(3) 2-d-ii, 1-a-iii, 3-b-iv, 4-c-
(4) 1-a-iii, 2-a-iv, 3-c-i, 4-b-ii

BAP289

27. Regarding to stele which of the following statement is correct ?
(1) All the tissues lies inner to pericycle
(2) All the tissues lies inner to endodermis
(3) All the tissues lies inner to hypodermis
(4) All the tissues lies inner to epidermis

BAP199

28. Complimentary cells are formed by the activity of
(1) Vascular cambium
(2) Inter fascicular cambium
(3) Phellogen
(4) Intra fascicular cambium

BAP200

29. Vascular cambium cuts off cells more
(1) Towards centre
(2) Towards periphery
(3) Both (1) and (2)
(4) None of these

BAP201

30. In a dicot root, vascular cambium originates from.
(1) Parenchymatous conjunctive tissue located just below phloem bundles
(2) Medullary rays
(3) A portion of pericycle tissue, lying opposite to protoxylem
(4) Both (1) and (3)

BAP202

31. In a dicot root, the pericycle gives rise to
(1) Lateral roots
(2) Cork cambium
(3) A portion of vascular cambium
(4) All of the above

BAP203

(B) ANALYTICAL QUESTIONS

32. Select true statement
(1) Lenticels occur in woody trees
(2) Bark is a non-technical term
(3) Vascular cambium and cork cambium are examples of lateral meristems
(4) All of the above

BAP204

33. During secondary growth in dicot stem, At some places, the cambium forms a narrow band of parenchyma, which passes through the secondary xylem and secondary phloem in radial directions. These are called :-
(1) Sap wood
(2) Heart wood
(3) Secondary medullary rays
(4) Primary medullary rays

BAP205

34. **Statement-I :** In dicot stem, cork cambium develop usually in steler region.
Statement-II : Cork cambium cuts off phelloderm on outside and phellem on inner side.
(1) Statement-I & Statement-II both are correct.
(2) Statement-I is correct & Statement-II is incorrect.
(3) Statement-I is incorrect & Statement-II is correct.
(4) Both Statement-I & Statement-II is incorrect.

BAP290

35. At certain regions, the phellogen cuts off closely arranged parenchymatous cells on the outer side instead of cork cells. These are called :-
(1) Phellem
(2) Periderm
(3) Bark
(4) Complimentary cells

BAP207

36. The cells of secondary cortex are :-
(1) Sclerenchymatous
(2) Parenchymatous
(3) Collenchymatous
(4) Meristematic

BAP208

37. In dicot root, the vascular cambium is.
(1) Primary in origin
(2) Completely secondary in origin
(3) Both primary and secondary in origin
(4) Neither primary nor secondary in origin

BAP209

38. Due to continuous growth of secondary xylem which of the following get crushed gradually
(1) Primary phloem
(2) Earlier formed secondary phloem
(3) Either (1) or (2)
(4) Both (1) and (2)

BAP210

39. After secondary growth what is the actual future of primary xylem ?
(1) Converts into secondary xylem
(2) Remains more or less intact in or around the centre
(3) Converts into secondary phloem
(4) Gets crushed

BAP211

40. In plants, during early embryonic condition-
(1) All cells of the embryo divide
(2) Meristematic activity is confined to single apical cell
(3) Meristematic activity is confined to a group of apical cells.
(4) Apical & lateral cells only divide

BAP212

41. **Statement-I :** In old trees, the greater part of secondary Xylem is dark brown due to deposition of organic compounds like tannins, resins, oils, gum, aromatic substances and essential oils.
Statement-II : The peripheral region of secondary phloem is lighter in colour and is also known as sapwood.
(1) Statement-I & Statement-II both are correct.
(2) Statement-I is correct & Statement-II is incorrect.
(3) Statement-I is incorrect & Statement-II is correct.
(4) Both Statement-I & Statement-II is incorrect.

BAP291

42. Identify the **correct** match from the column I and II :-

Column-I		Column-II	
(a)	Dicot stem	i.	Tetrach
(b)	Monocot stem	ii.	Polyarch
(c)	Monocot root	iii.	Starch sheath
(d)	Dicot root	iv.	Scattered vascular bundle

(1) a → iii; b → iv; c → ii; d → i
(2) a → iii; b → iv; c → i; d → ii
(3) a → iv; b → iii; c → ii; d → i
(4) a → ii; b → i; c → iii; d → iv

BAP292

43. Sieve plates in angiosperms are -
(1) Oblique & in lateral walls
(2) Pitted & in end wall
(3) Oblique & in end wall
(4) Straight & in lateral wall

BAP215

44. **Assertion :-** Amount of secondary xylem is produced more than secondary phloem
Reason :- The cambium is generally more active on the inner side than on the outer
(1) Both Assertion & Reason are True & the Reason is a correct explanation of the Assertion.
(2) Both Assertion & Reason are True but Reason is not a correct explanation of the Assertion.
(3) Assertion is True but the Reason is False.
(4) Both Assertion & Reason are False.

BAP293

45. T.S. of a material exhibits conjoint, collateral endarch and closed bundles scattered in a ground tissue what should be the material -
(1) Monocot root
(2) Dicot root
(3) Monocot stem
(4) Dicot stem

BAP217

46. In respect of many grasses, the presence of bulliform or motor cells in the upper epidermis of leaves is to:-
(1) Increase the surface area of the leaf
(2) Store large amount of water
(3) Check transpiration by reducing the surface area of the leaf
(4) Bear unicellular trichomes

BAP218

47. Heart wood of most of the woody trees, fails to conduct sap due to the obstruction by ?
(1) Excess secondary wall deposition
(2) Storing a variety of material by tyloses
(3) Deposition of reserved food material
(4) Ray parenchyma

BAP219

48. The trees growing in deserts will -
(1) Show alternate rings of xylem and sclerenchyma
(2) Show distinct annual rings
(3) Not show distinct annual rings
(4) Have only conjunctive tissue and phloem formed by the activity of cambium

BAP220

49. Sap wood differ from heart wood in being -
(1) Darker and non-conducting
(2) Softer and non-conducting
(3) Lighter and conducting
(4) Harder, darker and less conducting

BAP221

50. If a stem is girdled-
(1) Root dies first
(2) Shoot dies first
(3) Both die together
(4) None of the above die

BAP222

51. Spring wood (early wood) differs with autumn wood (late wood) in -
(1) Size of vessels and tracheids
(2) Thickness of cell wall
(3) Amount of wood
(4) All the above

BAP223

52. Most conspicuous annual rings are formed in
(1) Temperate evergreen plants
(2) Tropical deciduous
(3) Temperate deciduous plants
(4) Tropical evergreen

BAP224

53. In dicot root which tissue becomes dead due to activity of phellogen
(1) All tissue outside cortex
(2) Tissue outside hypodermis
(3) Tissue outside endodermis
(4) Tissue outside pericycle

BAP225

54. Physiologically functional part of wood is
(1) Heart wood only
(2) Sap wood only
(3) Only primary wood
(4) Both heart wood & sap wood

BAP226

55. Find out the **correct** match.

	Spring wood	**Autumn wood**	**Heart wood**
(1)	Wood formed during Autumn	Wood formed during spring	Lighter in colour
(2)	Wood formed during spring season	Wood formed during autumn season	Dead-elements with highly lignified wall
(3)	Late wood	Early wood	Teloses
(4)	Dark in colour	Light in colour	Phellem

BAP294

56. Which is not correct about heartwood
(1) It is formed of living cells
(2) It contains resins, tannin and other organic contents
(3) It is of dark coloured
(4) It lies in the central region of secondary xylem

BAP228

57. Which of the following statements are correct :-
(a) In the spring season vascular cambium produce large number of xylary elements.
(b) Spring wood is lighter in colour with high density.
(c) In the winter season vascular cambium produce vessel with narrow lumen.
(d) Autumn wood is darker in colour with high density.
(1) a, b, c
(2) b, c, d
(3) a, c, d
(4) a, b, c, d

BAP295

58. After two or three years of secondary growth the cortex in dicot roots
(1) Remains intact
(2) Is completely sloughed away
(3) Is largely lost
(4) Is converted into cork

BAP230

59. When secondary growth in thickness is initiated in a dicot root, which of the following happens first ?
(1) Cambial initials between xylem and phloem will divide
(2) Pericycle strands, outside the primary xylem will divide
(3) Periclinal division takes place, so that the cambium becomes circular
(4) Parenchymatous cells between xylem and phloem become meristematic

BAP231

60. Complementary cells of lenticels are
(1) Compact and suberised
(2) Closely arranged and non-suberised
(3) Compact and lignified
(4) Loose and lignified

BAP232

61. In a woody dicotyledonous tree, which of the following parts will mainly consist of primary permanent tissues ?
(1) Stem and root
(2) All parts
(3) Shoot tips and root tips
(4) Flowers, fruits and leaves

BAP233

62. Anatomically fairly old dicotyledonous root is distinguished from the dicotyledonous stem by :-
(1) Position of protoxylem
(2) Absence of secondary xylem
(3) Absence of secondary phloem
(4) Presence of cortex

BAP122

63. The cork cambium, cork and secondary cortex are collectively called :-
(1) Phelloderm (2) Phellogen
(3) Periderm (4) Phellem
BAP128

64. Some vascular bundles are described as open because these :
(1) Are not surrounded by pericycle
(2) Are surrounded by pericycle but no endodermis
(3) Are capable of producing secondary xylem and phloem.
(4) Possess conjunctive tissue between xylem and phloem.
BAP130

65. Water containing cavities in vascular bundles are found in :-
(1) *Cycas* (2) *Pinus*
(3) Sunflower (4) Maize
BAP132

66. Closed vascular bundles lack :-
(1) Cambium
(2) Pith
(3) Ground tissue
(4) Conjunctive tissues
BAP133

67. Companion cells are closely associated with:
(1) Trichomes (2) Guard cells
(3) Sieve elements (4) Vessel elements
BAP134

68. Age of a tree can be estimated by :
(1) Diameter of its heartwood
(2) Its height and girth
(3) Biomass
(4) Number of annual rings
BAP136

69. Interfascicular cambium develops from the cells of:
(1) Pericycle
(2) Medullary rays
(3) Xylem parenchyma
(4) Endodermis
BAP137

70. Lenticels are involved in :
(1) Photosynthesis
(2) Transpiration
(3) Gaseous exchange
(4) Food transport
BAP138

Exercise - III — ANSWER KEY

Question	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Answer	2	4	3	4	4	4	3	4	2	1	3	2	1	2	4
Question	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Answer	2	2	1	1	3	2	2	1	3	4	3	2	3	1	4
Question	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
Answer	4	4	3	4	4	2	2	4	2	1	2	1	3	1	3
Question	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Answer	3	2	3	3	1	4	3	4	2	2	1	3	2	4	2
Question	61	62	63	64	65	66	67	68	69	70					
Answer	4	1	3	3	4	1	3	4	2	3					