

# BOTANY

ENTHUSIAST | LEADER | ACHIEVER



**EXERCISE**

Anatomy of Flowering plants

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ENGLISH MEDIUM

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## EXERCISE-I (Conceptual Questions)

## Build Up Your Understanding

## MERISTEM TO VASCULAR BUNDLES

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.

PA0001

2. Root cap is not found in -  
 (1) Mustard (2) Pistia  
 (3) Sunflower (4) China rose

PA0004

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

PA0006

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

PA0007

5. Meristem which is present inside the vascular bundle is -  
 (1) Apical meristem  
 (2) Intercalary meristem  
 (3) Cork cambium  
 (4) Intra fascicular cambium

PA0248

6. 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

PA0011

7. Function of collenchyma is -  
 (1) Photosynthesis  
 (2) Mechanical support  
 (3) Both (1) and (2)  
 (4) Secretion

PA0012

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

PA0013

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

PA0014

10. Grittiness in pear fruit is due to  
 (1) Sclereids (2) Collenchyma  
 (3) Parenchyma (4) Meristem

PA0249

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

PA0016

12. Collenchyma differs from sclerenchyma in -  
 (1) Retaining protoplasm at maturity  
 (2) Having thick walls  
 (3) Having a lumen  
 (4) Being meristematic

PA0017

13. Which of the following tissue provide tensile strength to young dicot stem against bending & swaying-  
 (1) Parenchyma  
 (2) Collenchyma  
 (3) Sclerenchyma  
 (4) Sclereids

PA0018

14. Cell walls of sclerenchymatous cells are thickened due to deposition of -  
 (1) Cellulose (2) Pectin  
 (3) Lignin (4) Silica

PA0020

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

PA0021

16. Maximum bordered pits are found in tracheids of  
(1) Monocotyledons (2) Dicotyledons  
(3) Pteridophytes (4) Gymnosperms  
**PA0022**
17. The cell functionally associated with sieve tube element is -  
(1) Phloem fibres  
(2) Phloem parenchyma  
(3) Companion cell  
(4) Collenchyma  
**PA0023**
18. Bast fibres are mostly found in -  
(1) Secondary xylem  
(2) Secondary phloem  
(3) Primary phloem  
(4) Primary xylem  
**PA0024**
19. Vessels and companion cells are respectively present in the xylem and phloem of  
(1) Gymnosperm (2) Pteridophyte  
(3) Angiosperm (4) Bryophyte  
**PA0025**
20. Phloem parenchyma is absent in -  
(1) Dicot stem (2) Dicot leaf  
(3) Monocot stem (4) Dicot root  
**PA0026**
21. Localised cell wall thickenings in collenchyma is mainly due to deposition of -  
(1) Cellulose (2) Pectin  
(3) Lignin (4) Suberin  
**PA0250**
22. 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  
**PA0029**
23. End walls of tracheids and vessels are, respectively  
(1) Pitted & perforated  
(2) Perforated & pitted  
(3) Both perforated  
(4) Both pitted  
**PA0030**
24. Long and pointed sclerenchyma cells are  
(1) Fibres  
(2) Tracheae  
(3) Wood parenchyma  
(4) Sclereids  
**PA0032**
25. P-protein is a constituent of  
(1) Sieve tube elements  
(2) Xylem parenchyma  
(3) Parenchyma  
(4) Pericycle  
**PA0034**
26. When xylem and phloem are on same radius, the vascular bundles are said to be -  
(1) Radial  
(2) Conjoint  
(3) Endarch  
(4) Exarch  
**PA0035**
27. A vascular bundle in which phloem is present on both the sides of the xylem and separated from it by strips of cambium is said to be -  
(1) Collateral open  
(2) Bicollateral open  
(3) Radial  
(4) Bicollateral closed  
**PA0036**
28. The basic difference between stem and root is that xylem in stem is -  
(1) Endarch  
(2) Exarch  
(3) Diarch  
(4) Polyarch  
**PA0039**
29. Which xylem element is living :-  
(1) Vessels  
(2) Tracheids  
(3) Fibres  
(4) Parenchyma  
**PA0040**
- PRIMARY INTERNAL STRUCTURE TO SECONDARY GROWTH**
30. A tissue of epiphytes which is capable of absorbing water from air is known as -  
(1) Cork (2) Velamen  
(3) Epiblema (4) Hypodermis  
**PA0041**

31. Collenchymatous hypodermis is characteristic feature of -  
 (1) Dicot stem  
 (2) Monocot stem  
 (3) Monocot as well as dicot stem  
 (4) Hydrophytes  
**PA0043**
32. 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  
**PA0044**
33. **Cortex** and **pith** are not distinguished in -  
 (1) Monocot stem  
 (2) Monocot root  
 (3) Dicot stem  
 (4) Dicot root  
**PA0045**
34. 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  
**PA0046**
35. In dicot root  
 (1) Vascular bundles are scattered with cambium  
 (2) Vascular bundles are open and arranged in a ring  
 (3) Xylem and phloem are radial  
 (4) Xylem is always endarch  
**PA0047**
36. A dicot root differs from a monocot root in which of the following-  
 (1) Presence of epiblema  
 (2) Presence of pericycle  
 (3) Presence of less-developed (poorly developed) pith  
 (4) Presence of radial vascular bundles  
**PA0048**
37. Polyarch and exarch xylem is the characteristic of-  
 (1) Dicot stem  
 (2) Dicot root  
 (3) Monocot stem  
 (4) Monocot root  
**PA0251**
38. Water cavity occurs in the vascular bundle of -  
 (1) Dicot stem  
 (2) Monocot root  
 (3) Monocot stem  
 (4) Dicot root  
**PA0050**
39. In which of the following order, an exarch xylem develops -  
 (1) Centripetal  
 (2) Centrifugal  
 (3) Both centripetal & centrifugal  
 (4) Irregular  
**PA0051**
40. Vascular bundles in *Cucurbita* stem are -  
 (1) Bicollateral & open  
 (2) Bicollateral & closed  
 (3) Collateral & open  
 (4) Amphivasal  
**PA0053**
41. Position of xylem & phloem in leaf respectively -  
 (1) Abaxial & Adaxial  
 (2) Adaxial & Abaxial  
 (3) Both Adaxial  
 (4) Both abaxial  
**PA0054**
42. In dicot stem, hypodermis is  
 (1) Parenchymatous  
 (2) Sclerenchymatous  
 (3) Collenchymatous  
 (4) Chlorenchymatous  
**PA0252**
43. In leaves, the vascular bundles are  
 (1) Bicollateral & open  
 (2) Collateral & open  
 (3) Collateral & closed  
 (4) Radial & exarch  
**PA0056**

- 44.** Vascular bundles are scattered in ground tissue (Atactostele) in -  
 (1) Maize stem  
 (2) Sunflower stem  
 (3) Gram root  
 (4) Isobilateral leaf  
**PA0253**
- 45.** The hypodermis present in maize stem is -  
 (1) Parenchymatous  
 (2) Collenchymatous  
 (3) Sclerenchymatous  
 (4) Meristematic  
**PA0058**
- 46.** Passage cells are found in endodermis of-  
 (1) Dicot stem  
 (2) Monocot stem  
 (3) Orchid stem  
 (4) Monocot root  
**PA0059**
- 47.** Pith is produced by  
 (1) Ground meristem  
 (2) Procambium  
 (3) Collenchyma  
 (4) Protoderm  
**PA0060**
- 48.** Sugar transport elements of gymnosperms & pteridophytes are -  
 (1) Sieve cells  
 (2) Vessels  
 (3) Sieve tubes  
 (4) Sieve tube elements  
**PA0061**
- 49.** When protoxylem faces pericycle, it is called  
 (1) Endarch  
 (2) Diarch  
 (3) Exarch  
 (4) Polyarch  
**PA0062**
- 50.** Which wood conduct sap -  
 (1) Heart wood  
 (2) Sap wood  
 (3) Wood with lots of fibres and tyloses  
 (4) All of the above  
**PA0063**
- 51.** Phelloderm is formed by -  
 (1) Vascular cambium  
 (2) Phellogen  
 (3) Fascicular cambium  
 (4) Interfascicular cambium  
**PA0064**
- 52.** 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  
**PA0065**
- 53.** 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  
**PA0066**
- 54.** In trees, the annual rings represent  
 (1) Primary xylem  
 (2) Secondary xylem  
 (3) Secondary phloem  
 (4) Cambium  
**PA0068**
- 55.** Annual rings are formed due to the activity of-  
 (1) Intrastelar cambium  
 (2) Intercalary cambium  
 (3) Extrastelar cambium  
 (4) Primary cambium  
**PA0070**
- 56.** When a tree grows older which of the following increased rapidly -  
 (1) Heart wood                      (2) Sap wood  
 (3) Pith                                  (4) Cortex  
**PA0071**

57. Lenticels do not occur on-  
 (1) Stem (2) Root  
 (3) Leaf (4) Fruit  
**PA0072**
58. External protective tissues are -  
 (1) Cortex and epidermis  
 (2) Cork and pericycle  
 (3) Cortex and pericycle  
 (4) Cork and epidermis  
**PA0073**
59. Which of the following provides maximum mechanical strength to a tree trunk.  
 (1) Heart wood (2) Sap wood  
 (3) Cork (4) Late wood  
**PA0074**
60. 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  
**PA0076**
61. Normally secondary growth takes place in -  
 (1) Dicots & Monocots  
 (2) Gymnosperms & Monocots  
 (3) Dicots & Gymnosperms  
 (4) Only in dicots  
**PA0078**
62. Formation of which tissue is example of dedifferentiation  
 (1) Interfascicular cambium  
 (2) Apical meristem  
 (3) Intrafascicular cambium  
 (4) Intercalary meristem  
**PA0080**
63. 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  
**PA0081**
64. Which tissue remains more active during spring  
 (1) Cork cambium  
 (2) Vascular cambium  
 (3) Parenchyma  
 (4) Sclerenchyma  
**PA0082**
65. Water conduction in stem of tree takes place mainly by-  
 (1) Heart wood (2) Sap wood  
 (3) Primary xylem (4) All of the above  
**PA0083**
66. How many types of cells are present in vascular cambium of dicot stem  
 (1) Two types, fusiform & ray initials  
 (2) Only fusiform initials  
 (3) Only ray initials  
 (4) Three types fusiform, ray and medullary rays.  
**PA0084**
67. Cork cambium is  
 (1) Always primary meristem  
 (2) Always secondary meristem  
 (3) May be secondary or primary meristem  
 (4) Partly primary & partly secondary meristem  
**PA0085**
68. Normally in dicot stems, phellogen develops from  
 (1) Hypodermis  
 (2) Phellem  
 (3) Endodermal cells  
 (4) Epidermal & pericycle cells  
**PA0086**
69. Suberin is chiefly deposited in the cells of  
 (1) Sclerenchyma  
 (2) Collenchyma  
 (3) Cork  
 (4) Phelloderm  
**PA0087**



70. Which of the following is a meristematic tissue  
(1) Phellem (2) Phellogen  
(3) Phelloderm (4) Periderm  
**PA0088**
71. Sea shore trees do not show annual rings because  
(1) There is little climatic variations  
(2) They belong to monocots  
(3) There is low temperature  
(4) Soil is sandy  
**PA0089**
72. 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  
**PA0090**
73. The balloon like outgrowths of parenchyma in the lumen of a vessel are known as  
(1) Hadrome (2) Tyloses  
(3) Phellogen (4) Leptome  
**PA0091**
74. 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  
**PA0092**
75. Cork is an excellent material for making bottle stopper because it is  
(1) Cheap  
(2) Easily available  
(3) Air tight  
(4) Light  
**PA0093**
76. In monocot stems, secondary growth doesnot occur because vascular bundles are  
(1) Scattered (2) Open  
(3) Closed (4) Radial  
**PA0094**
77. Gymnosperm wood is non porous because it  
(1) Lacks vessels  
(2) Contains tracheae  
(3) Has abundant fibres  
(4) Contains no fibres  
**PA0095**
78. Porous wood is characterised by  
(1) Absence of tracheids  
(2) Presence of vessels  
(3) Absence of vessels  
(4) Presence of sieve-tubes  
**PA0096**
79. 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  
**PA0098**
80. Each annual ring consists of two strips of  
(1) Autumn & spring wood  
(2) Heart wood & sap wood  
(3) Xylem and phloem  
(4) Cork & cortex  
**PA0099**
81. Intrafascicular cambium is situated  
(1) In between the two vascular bundles  
(2) Inside the vascular bundles  
(3) Outside the vascular bundles  
(4) In pith  
**PA0100**
82. An example of monocots showing secondary growth in stem is  
(1) *Lilium*  
(2) *Pea*  
(3) *Asparagus*  
(4) *Yucca*  
**PA0101**
83. Vascular tissue having abundant vessels and fibres is  
(1) Primary xylem  
(2) Secondary xylem  
(3) Protoxylem  
(4) Metaxylem  
**PA0102**

84. Monocot root is differ from dicot root in having :  
 (1) Open vascular bundles  
 (2) Scattered vascular bundles  
 (3) Large pith  
 (4) Radial vascular bundles  
**PA0104**
85. 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  
**PA0106**
86. Vascular cambium forms :-  
 (1) Secondary xylem & Secondary phloem  
 (2) Primary xylem & Primary Phloem  
 (3) Only Secondary phloem  
 (4) Only Primary xylem  
**PA0108**
87. 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  
**PA0109**
88. Conjoint, Collateral, open vascular bundle and vascular bundles are arranged in a ring (Eustele) in :-  
 (1) Dicot stem  
 (2) Monocot stem  
 (3) Monocot root  
 (4) Dicot Root  
**PA0254**
89. Radial vascular bundles are found in :  
 (1) Only dicot root  
 (2) Only monocot root  
 (3) Only Pteridophyte  
 (4) Roots of vascular plants  
**PA0111**
90. Casparian strip is found in :-  
 (1) Epidermis  
 (2) Endodermis  
 (3) Endothecium  
 (4) Pericycle  
**PA0112**

## EXERCISE-I (Conceptual Questions)

## ANSWER KEY

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



EXERCISE-II (Previous Year Questions)

AIPMT/NEET

AIPMT 2006

1. A common structural feature of vessel elements and sieve tube elements is :-  
(1) Presence of p-protein  
(2) Eucleate condition  
(3) Thick secondary walls  
(4) Pores on lateral walls

PA0113

AIPMT 2007

2. 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

PA0116

3. 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.

PA0117

AIPMT 2008

4. 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

PA0119

AIPMT 2009

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

PA0120

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

PA0121

7. Reduction in vascular tissue, mechanical tissue and cuticle is characteristic of :-  
(1) Hydrophytes  
(2) Xerophytes  
(3) Mesophytes  
(4) Epiphytes

PA0122

8. 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

PA0123

AIPMT-Pre 2010

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

PA0124

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

PA0125

11. 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

PA0126

## AIPMT-Main 2010

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

PA0127

## AIPMT-Pre 2011

13. 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

PA0129

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

PA0130

## AIPMT-Main 2011

15. 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.

PA0132

## AIPMT-Pre 2012

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

PA0134

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

PA0135

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

PA0136

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

PA0137

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

PA0138

## NEET-UG 2013

21. 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

PA0139

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

PA0140

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

PA0141

**AIPMT 2014**

24. 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

**PA0143**

25. Tracheids differ from other tracheary elements in:

(1) Having casparian strips  
(2) Being imperforate  
(3) Lacking nucleus  
(4) Being lignified

**PA0144**

**AIPMT 2015**

26. 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

**PA0145**

27. 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

**PA0146**

28. 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

**PA0147**

**Re-AIPMT 2015**

29. 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)

**PA0148**

**NEET-I 2016**

30. Specialised epidermal cells surrounding the guard cells are called :-

(1) Complementary cells  
(2) Subsidiary cells  
(3) Bulliform cells  
(4) Lenticels

**PA0149**

**NEET-II 2016**

31. Cortex is the region found between :-

(1) Endodermis and pith  
(2) Endodermis and vascular bundle  
(3) Epidermis and stele  
(4) Pericycle and endodermis

**PA0150**

32. 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

**PA0151**

**NEET(UG) 2017**

33. The vascular cambium normally gives rise to :

(1) Primary phloem  
(2) Secondary xylem  
(3) Periderm  
(4) Phelloderm

**PA0153**

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

PA0154

35. 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

PA0155

**NEET(UG) 2018**

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

PA0156

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

PA0157

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

PA0158

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

PA0159

**NEET(UG) 2019**

40. 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

PA0242

41. 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

PA0243

42. 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

PA0244

43. 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.

PA0245

**NEET(UG) 2019 (Odisha)**

44. 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.

**PA0246**

45. Regeneration of damaged growing grass following grazing is largely due to :-  
 (1) Lateral meristem  
 (2) Apical meristem  
 (3) Intercalary meristem  
 (4) Secondary meristem

**PA0247**

**NEET(UG) 2020**

46. 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

**PA0255**

47. 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

**PA0256**

**NEET(UG) 2020 (COVID-19)**

48. 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

**PA0257**

49. Which of the following statements about cork cambium is **incorrect**?  
 (1) It forms secondary cortex on its outside  
 (2) It forms a part of periderm  
 (3) It is responsible for the formation of lenticels  
 (4) It is a couple of layers thick

**PA0258**

**NEET(UG) 2021**

50. 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.

- |     |            |            |            |            |
|-----|------------|------------|------------|------------|
|     | <b>(a)</b> | <b>(b)</b> | <b>(c)</b> | <b>(d)</b> |
| (1) | (ii)       | (iv)       | (i)        | (iii)      |
| (2) | (iv)       | (iii)      | (ii)       | (i)        |
| (3) | (i)        | (ii)       | (iii)      | (iv)       |
| (4) | (iii)      | (ii)       | (iv)       | (i)        |

**PA0259**

## 51. 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)

PA0260

52. Select the **correct** pair.

- (1) Large colorless empty – Subsidiary cells cells in the epidermis of grass leaves
- (2) In dicot leaves, vascular – Conjunctive bundles are surrounded tissue by large thick-walled cells
- (3) Cells of medullary rays – Interfascicular that form part of cambium cambial ring
- (4) Loose parenchyma cells – Spongy rupturing the epidermis parenchyma and forming a lens-shaped opening in bark

PA0261

Re-NEET(UG) 2021

## 53. 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

PA0279

## 54. 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

PA0280

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

- (1) Sieve elements
- (2) Companion cells
- (3) Tracheids
- (4) Transfusion tissue

PA0281

NEET(UG) 2022

## 56. 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 possess 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

PA0282



57. 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 autumnwood 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

**PA0283**

**NEET(UG) 2022 (OVERSEAS)**

58. 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.

**PA0284**

59. Axillary buds are derived from the activity of:

- (1) Secondary meristem
- (2) Apical meristem
- (3) Intercalary meristem
- (4) Lateral meristem

**PA0285**

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

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

**PA0286**

**Re-NEET(UG) 2022**

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

- (1) Epiblema
- (2) Cortex
- (3) Endodermis
- (4) Pericycle

**PA0287**

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

- (1) Parenchyma
- (2) Collenchyma
- (3) Sclerenchyma
- (4) Sclereid

**PA0288**

63. 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

PA0289

## EXERCISE-II (Previous Year Questions)

## ANSWER KEY

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

EXERCISE-III

Master Your Understanding

EXERCISE-III(A) [NCERT Based QUESTIONS]

1. Branch of botany related with study of internal structure of plants.  
(1) Cytology  
(2) Anatomy  
(3) Physiology  
(4) Ecology  
**PA0161**
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 performing a common function.  
**PA0162**
3. In embryonic stage, cells are  
(1) Collenchymatous  
(2) Sclerenchymatous  
(3) Meristematic  
(4) Parenchymatous  
**PA0163**
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  
**PA0164**
5. Which of the following is an example of primary meristem  
(1) Phellogen  
(2) Vascular cambium of root  
(3) Interfascicular cambium  
(4) Intrafascicular cambium  
**PA0165**
6. Which of the following is/are example(s) of lateral meristems  
(1) Fascicular vascular cambium  
(2) Inter-fascicular cambium  
(3) Cork cambium  
(4) All of the above  
**PA0166**

7. Example(s) of primary permanent tissue(s) is/are  
(1) Parenchyma  
(2) Collenchyma  
(3) Sclerenchyma  
(4) All of the above  
**PA0167**
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  
**PA0168**
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  
**PA0169**
10. Living elements of xylem is  
(1) Tracheid  
(2) Vessel  
(3) Xylem parenchyma  
(4) Xylem fibre  
**PA0170**
11. Companion cells are present in the phloem of  
(1) Pteridophytes (2) Gymnosperms  
(3) Angiosperms (4) Both 1 and 2  
**PA0171**
12. Vessels differ from tracheids in having  
(1) In being living  
(2) Presence of perforation plates at both ends  
(3) Eucleated condition  
(4) All of the above  
**PA0172**
13. Which of the following is/are bast fibre/s ?  
(1) Jute (2) Flax  
(3) Hemp (4) All of the above  
**PA0173**

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  
**PA0174**
15. Which of the following is not included in stomatal apparatus  
(1) Stomatal aperture  
(2) Guard cells  
(3) Subsidiary cells  
(4) Sclerenchymatous cells  
**PA0175**
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  
**PA0262**
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  
**PA0263**
18. Cuticle is absent in  
(1) Roots (2) Dicot Stem  
(3) Leaves (4) Monocot stem  
**PA0264**
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  
**PA0176**
20. Pith is small or inconspicuous in  
(1) Monocot root (2) Monocot stem  
(3) Dicot root (4) Dicot stem  
**PA0177**
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  
**PA0178**
22. Parenchymatous cells with large intercellular spaces which occupy the central portion of the stem constitute  
(1) Cortex  
(2) Pith  
(3) Hypodermis  
(4) Epidermis  
**PA0265**
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  
**PA0266**
24. In dicot stem, the cells of cambium present between primary xylem and primary phloem is the  
(1) Interfascicular cambium  
(2) Vascular cambium  
(3) Intrafascicular cambium  
(4) Cork cambium  
**PA0267**
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  
**PA0268**
26. The parenchymatous cells lies between xylem & phloem of root is known as  
(1) Cambium  
(2) Conjunctive tissue  
(3) Pith  
(4) Pericycle  
**PA0269**

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  
**PA0270**
28. Complimentary cells are formed by the activity of  
 (1) Vascular cambium  
 (2) Inter fascicular cambium  
 (3) Phellogen  
 (4) Intra fascicular cambium  
**PA0181**
29. Vascular cambium cuts off cells more  
 (1) Towards centre  
 (2) Towards periphery  
 (3) Both 1 and 2  
 (4) None of these  
**PA0182**
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  
**PA0183**
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  
**PA0184**
- EXERCISE-III(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  
**PA0185**
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  
**PA0271**
34. Bark that is formed early in the season is called  
 (1) Late bark (2) Soft bark  
 (3) Hard bark (4) Ring bark  
**PA0272**
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  
**PA0273**
36. The cells of secondary cortex are :-  
 (1) Sclerenchymatous (2) Parenchymatous  
 (3) Collenchymatous (4) Meristematic  
**PA0274**
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  
**PA0275**
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  
**PA0276**
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  
**PA0277**

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  
**PA0186**
41. Tissue which develops more due to scarcity of water or tissue which is lignified -  
 (1) Sclerenchyma (2) Collenchyma  
 (3) Parenchyma (4) Meristem  
**PA0188**
42. A mature sieve tube differs from a vessel -  
 (1) In lacking a functional nucleus  
 (2) Absence of lignified walls  
 (3) Being nearly dead  
 (4) Lacking cytoplasm  
**PA0189**
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  
**PA0190**
44. According to Haberlandt theory, the part differentiated by protoderm is-  
 (1) Cortex  
 (2) Xylem & phloem  
 (3) Ground tissue system  
 (4) Epidermal tissue system  
**PA0192**
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  
**PA0194**
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  
**PA0197**
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  
**PA0198**
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  
**PA0199**
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  
**PA0200**
50. If a stem is girdled-  
 (1) Root dies first  
 (2) Shoot dies first  
 (3) Both die together  
 (4) None of the above die  
**PA0201**
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  
**PA0203**
52. Most conspicuous annual rings are formed in -  
 (1) Temperate evergreen plants  
 (2) Tropical deciduous  
 (3) Temperate deciduous plants  
 (4) Tropical evergreen  
**PA0204**



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  
**PA0205**
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  
**PA0207**
55. Which of the following is not a part of stomatal apparatus ?  
 (1) Stomatal aperture (2) Guard cells  
 (3) Lenticels (4) Subsidiary cells  
**PA0278**
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  
**PA0209**
57. Outer lighter coloured region of wood of tree is  
 (1) Autumn wood (2) Spring wood  
 (3) Heart wood (4) Sap wood  
**PA0210**
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  
**PA0211**
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  
**PA0212**
60. Complementary cells of lenticels are  
 (1) Compact and suberised  
 (2) Closely arranged and non suberised  
 (3) Compact and lignified  
 (4) Loose and lignified  
**PA0213**
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  
**PA0214**

## EXERCISE-III (Analytical Questions)

## ANSWER KEY

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