Anatomy of Flowering Plants

I. Select the correct answer from the following questions:

Question 1.
Intercalary meristem is derived from
(a) Apical meristem
(b) Protoderm
(c) Calyptrogen
(d) Lateral meristem

▼ Answer

Answer: (a) Apical meristem.

Question 2.
Secondary meristem develops from
(a) Apical meristem
(b) Permanent tissue
(c) Secondary tissue
(d) Vascular combium

▼ Answer

Answer: (b) Permanent tissue

Question 3.
Cambium is considered to be a lateral meristem because it
(a) Gives rise to lateral branches
(b) Increase the girth of the plant
(c) Increase both length and girth of plant
(d) Increase the length of the plant.

▼ Answer

Answer: (b) Increase the girth of the plant

Question 4.
Quiscent centre is located in
(a) Shoot apex
(b) Root apex
(c) Bud apex
(d) Leaf apex

▼ Answer

Answer: (b) Root apex

Question 5.
Casparian strips occur in the cells of
(a) Exodermis
(b) Epiderms
(c) Hypodermis
(d) Endoderms

▼ Answer

Answer: (d) Endoderms

Question 6.
Lignified cells with narrow and pointed end wall are
(a) Chlorenchyma
(b) Parenchyma
(c) Sclerenchyma
(d) Endoderms

▼ Answer

Answer: (c) Sclerenchyma

Question 7.
Nucleus is absent in
(a) Vessels
(b) Sieve tube elements
(c) Tracheid
(d) All of these

▼ Answer

Answer: (d) All of these

Question 8.
Age of a tree is calculated by its
(a) Girth
(b) Height
(c) Number of annual rings
(d) Number of branches

▼ Answer

Answer: (c) Number of annual rings.

Question 9.
Youngest secondary xylem occurs
(a) Just outside the vascular cambium
(b) Just inside the vascular cambium
(c) Just outside the vascular cambium
(d) Just inside the cork cambium

▼ Answer

Answer: (b) Just inside the vascular cambium.

Question 10.
Mesophll cells in a leaf are
(a) Sclerenchymatous
(b) Collenehymatous
(c) Parenchymatous
(d) Meristem

▼ Answer

Answer: (c) Parenchymatous

Question 11.
Healing of wounds occur due to the activity of
(a) Intercalary meristem
(b) Secondary meristem

(c) Primary meristem
(d) Apical meristem

▼ Answer

Answer: (b) Secondary meristem

Question 12.
Lateral root arise from
(a) Cambium
(b) Pericycle
(c) Epidermis
(d) Endodermis

▼ Answer

Answer: (b) Pericycle

Question 13.
Vascular bundles are absent in
(a) Dicots
(b) Monocots
(c) Cambium
(d) Pteridophytes

▼ Answer

Answer: (d) Pteridophytes

Question 14.
Which one contain only living cells?
(a) Vessels
(b) Sclerenchyma
(c) Trachieds
(d) Parenchyma

▼ Answer

Answer: (d) Parenchyma

Question 15.
Vascular bundle having cambium is
(a) Closed
(b) Open
(c) Colleral
(d) Conjoint

▼ Answer

Answer: (b) Open

Question 16.
Lignified cell well occurs in
(a) Xylem cells
(b) Epidermal cells
(c) Cambial cells
(d) Phloem cells

▼ Answer

Answer: (a) Xylem cells .

Question 17.
Bordered pits are more common in
(a) Gymmosperms
(b) Monocots
(c) Dicots
(d) All of these

▼ Answer

Answer: (a) Gymmosperms

Question 18.
Both apical meristems and intercalary meristem are also called
(a) Intercalary meristems
(b) Lateral meristems
(c) Primary meristems
(d) Meristems

▼ Answer

Answer: (c) Primary meristems

Question 19.
Complex tissues also provides mechanical strength to the plant parts. It is composed elements
(a) Trachieds
(b) Vessels
(c) Xylem fibres
(d) Xylem parenchyma
(e) All of these

▼ Answer

Answer: (e) All of these

Question 20.
The first formed xylem elements are called
(a) Metaxylem
(b) Endarch
(c) Protoxylem
(d) Exarch

▼ Answer

Answer: (c) Protoxylem

II. Fill in the blanks:

Question 1.
The plant is made up of Cells which are organised into …… and the tissues into ……..

▼ Answer

Answer: tissues, organs

Question 2.
Plants have different kinds of ……..

▼ Answer

Answer: meristems

Question 3.
Fascicular vascular cambium, interfascicular cambium and cork- cambium are examples of …… meristems.

▼ Answer

Answer: lateral

Question 4.
The various simple tissues are ……, …….. and ……

▼ Answer

Answer: parenchyma, collenchyma, sclerenchyma

Question 5.
Parenchymatous cells form the major components like …… of …….. and …… parts.

▼ Answer

Answer: cortex., pit, mesophyll, leaves, floral

Question 6.
…….. forms …… below the epidermis, in dicotyle-donous plants.

▼ Answer

Answer: Collenchyma, hypodermis

Question 7.
…….. consists of long, narrow cells with thick and lignified i cell walls having a few or numerous pits.

▼ Answer

Answer: Sclerenchyma

Question 8.
…….. is cbmposed of four different kinds of elements, namely, trachieds, vessels, xylem fibres and xylem paranchyma.

▼ Answer

Answer: Complex tissues

Question 9.
…… are long, tube-like structures, arranged longitudinally and are associated with the companion cells.

▼ Answer

Answer: Sieve tube elements

Question 10.
Each stoma is composed of two bean-shaped cells known as the …….

▼ Answer

Answer: guard cells

Question 11.
The cells of epidermis bear a number of hair known as ……..

▼ Answer

Answer: trichomes

Question 12.
The outermost layer is ……..

▼ Answer

Answer: epidermis

Question 13.
The ……. consists of several layers of thin-walled parenchymata with intercellular spaces.

▼ Answer

Answer: cortex

Question 14.
A number of ……. are arranged in a ring. Each vascular bundle is ……., ……. and …….

▼ Answer

Answer: vascular, conjoint, collateral endarch, open

Question 15.
When the …….. cells in the leaves are turgid, the leaf surface is exposed.

▼ Answer

Answer: bulliform

III. Mark the statements True (T) or False (F)

Question 1.
The spring wood is lighter in colour and has a low density whereas the autumn wood is darker and has a higher density.

▼ Answer

Answer: True

Question 2.
The wood formed during spring season is called autumn wood or late wood.

▼ Answer

Answer: False

Question 3.
Phellogen, phellem, and phelloderm are collectively known as lenticel.

▼ Answer

Answer: False

Question 4.
The peripheral region of the secondary xylem, is lighter in colour and is known as the sapwood.

▼ Answer

Answer: True

Question 5.
Secondary growth also occur in stems and roots of gymnosperms. However, secondary growth does not occur in monocotyledons.

▼ Answer

Answer: True

Question 6.
All the dead cells lying outside the active cork cambium constitute the bark.

▼ Answer

Answer: True

Question 7.
Lenticels permit the exchange of gases between the outer at-mosphere and the internal tissue of the stem.

▼ Answer

Answer: True

Question 8.
The two kinds of woods appear as alternate concentric rings, constituting an annual ring.

▼ Answer

Answer: True

Question 9.
Vascular system includes vascular bundles, which can be seen in the veins.

▼ Answer

Answer: True

Question 10.
When xylem and phloem within a vascular bundle are arranged in an alternate manner on different radii as in the roots are called radial as in the roots.

▼ Answer

Answer: True

IV. Match the items or column I with the items of column II

Column I	Column II
(i) Heart wood	(a) spring wood
(ii) Spring season	(b) innermost layer of the cortex
(iii) Secondary growth	(c) unicellular
(iv) Isobilateral leaf	(d) tapering cylindrical cells

(v) Endodermis	(e) comprises dead elements with highly lingnifled walls.
(vi) Root hairs	(f) thick-walled, elongated and pointed cells.
(vii) Phloem paranchyma	(g) two lateral mertstems vascular cambium and cork cambium.
(viii) Primary xylem	(h) they are mostly dead and without protoplasts
(ix) Xylem parenchymatous	(i) bulliform cells.
(x) Sclereids	(j) walls are made up of cellulose
(xi) Collenchyma	(k) hypodermis below the epidermis.
(xii) Parenchymatous	(l) cortex, pith, mesophyll of leaves, floral parts.
(xiii) Fibres	(m) protoxylem and metaxylem
(xiv) Sclerenchyma	(n) spherical, oval or cylindrical, highly thickened dead cells with very narrow cavities.

▼ Answer

Answer:

Column I	Column II
(i) Heart wood	(e) comprises dead elements with highly lingnifled walls.
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(iii) Secondary growth	(g) two lateral mertstems vascular cambium and cork cambium.
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