BIOLOGY

BOOKS - A2Z BIOLOGY (HINGLISH)

ANATOMY OF FLOWERING PLANTS

Section A Topicwise Questions Topic 1 The Tissues Meristematic Tissues Permanent Tissues Si

1. Read the following statement and find out the incorrect statement .

A. There are structural similarities and variations (differences) in he external morphology and internal

structure of the larger living organism both plants and animals.

B. Plants have cells as the basic unit which orgainised into tissues and in turn the tissues are organised into organs

C. A tissue is a group of cells having a common origin and usually performing different functions

D. Axillary buds are present in the axils of leaves and are capable of forming a branch or flower

Answer: C


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2. Which of the following is a complex tissue ?

A. Parenchyma

B. Phloem

C. Xylem

D. Both B and C

Answer: D

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3. Tissues are classified in to two main groups namely, meristematic and permanent tissues based on

A. position and location

B. Function position and location

C. Whether the cells being formed are capable of dividing or not

D. Structure function position and location

Answer: C

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4. Recongnise the figure and find out the incorrect option

A. On maturation 'a' possesses a peripheral cytoplasm and large vacue but lacks a nucleus

B. b' stores food material in the form of starch or fat, and other substances like tannins

C. c' helps in the mainitaining the pressure gradient in 'a'

D. a' and 'c' are not found in pteridophytes and gymnosperms.They have albuminous cells and sieve cells

Answer: B

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5. Growth in plants is largely restricted to specialized regions of active cell division called

A. Meristems

B. Cambium

C. Primordium

D. Permanent tissue

Answer: A

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6. The only plant cells without nuclei among the following are

Or

The tissue which is living but does not posses nucleous in mature stage is

A. Cambium cells

B. Sieve tube elements

C. Root hairs

D. Companion cells

Answer: B

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7. Fill in the blanks:

The meristems which occu at the tips of roots and shoots and produce primary tissues are called ...1.. Meristems.

The meristem which occurs between mature tissues is known as ...2... meristem

During the formation of leaves and elongation of stem, some cells'left behind' from shoot apical meristem, constitute the...3....

..4... occurs in grasses and regenerates parts removed by the grazing herbiovres.

A. 1-lateral, 2-apical ,3- intercalary meristem, 4-secondary meristem

B. 1-apical, 2 -lateral, 3-apical bud, 4-lateral meristem

C. 1-interdcalary, 2-lateral,3-axillary bud, 4-intecalary meristem

D. 1-apical, 2-intercalary, 3-axillary bud ,4-intercalary meristem

Answer: D

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8. Which of the following is living?

A. Vessels

B. Tracheids

C. Companion cells

D. Sclerenchyma

Answer: C

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9. Which of the following characteristic is not found in parenchyma?

A. It forms the major component within organs

B. Their walls are thick and made up of cellulose

C. They may either be closely packed or have small intercellular spaces

D. The parenchyma performs various functions like photosynthesis storage and secretion

Answer: B

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10. Recognise the figure and find out the correct matiching

A. a-cortex, b-protoderm, c-root apical meistem, d- root cap

B. b-cortex ,a -protoderm, d-root apical meristem, c-root cap

C. a-cortex, c-protoderm, b-root apicl meristem, d-root cap

D. b-cortex,a-protoderm,c-root apical meristemd-root cap

Answer: A

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11. Intercalary meristem is an derivative of

A. Promeristem

B. Primary meristem

C. Lateral meristem

D. Secondary

Answer: B

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12. The sclerenchymatous sclereids are found in

A. Fruit walls of legumes

B. Pulp of fruits like, guava pear and sapota, leaves of tea

C. Seed coat of nuts

D. All of the above

Answer: B

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13. The meristem that occurs in the mature regions of toots and shoots in many plants particaulary those that produce woody axis and appear later than primary meristem is called

A. Laterl meristem

B. Secondary meristem

C. Cylindrical meristem

D. All of the above

Answer: D

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14. Find out the maismatch pair

A. Tracheids- Elongated or tube like cells with thick and lignified walls .These are dead and without protoplast.

B. Vessels-Tube like structure made up of many cells called vessel members , each wisth lignified walls and large central caivty. These are devoid of protoplasm

C. Xylem fibres-Highly thickened walls and obliterated central lumen

D. Xylem parenchyma- Living and thin walled cellulosic cells .They store food materials in the form of resin latex and mucilage

Answer: D

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15. Albuminous cells occur in

A. Xylem

B. Phloem

C. Cortex

D. Conjuctive parenchyma

Answer: B

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16. Fill in the blanks :

In ...1... the protoxylem lies towards the periphery and metaxyleml lies towards the centre. Such arrangement of primary xylem is called ...2..

In ...3... the protoxylem lies towards th centre (pith) and the metaxylem lies twoards the periphery. This type of primary xylem is clled ..4..

A. 1-roots,3-stems,2-endarch,4-exarch

B. 1-roots,3-stems, 4-endarch,2-exarch

C. 3-roots,1-stems,2-endarch,4-exarch

D. 3-roots, 1-stems,4-endarch, 2-exarch

Answer: B

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17. The meristems which is /are responsible for producing secondary tissue is/are

A. Intrafasicular cambium

B. Interfascicular cambium

C. Cork cambium

D. All of the above

Answer: D

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18. Which pair has lignin in both?

A. Tracheid and collenchyma

B. Sclerechyma and sieve tube

C. Sclerenchyma and tracheids

D. Parenchyma and endodermis

Answer: C

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19. Recognise the figure and find out the correct matching

A. a-racheid,b-vessels,c-xylem fiber,d-sclerenchymatous fibre

B. a-vessels,b=compainion cells, c-tracheid d- sieve tube element

C. a-tracheid,b-bessels, c-sclerenchymatous fibre,d-trcheid

D. a-vessels, b-tracheid ,c-sclerenchymatous fiber, d-vessels

Answer: C

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20. Intercalary meristem results in

A. Secondary growth

B. Primary growth

C. Apical growth

D. Secondary overgrowth

Answer: B

21. Following divisions of cells in both primary and as well as secondary meristems the newly formed cells become structurally and functionally specialized and loose the ability to divide such cells are termed as

A. Meristematic cells and constitute the apical meristems

B. Mature cells and constitute the lateral meristem

C. Permanents cells and constitute the cylindrical meristems

D. Mature cell and constitute the permanent tissues

Answer: D

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22. Length of petiole increases by the acitivity of

A. Apical meristem

B. Lateral meristem

C. Intercalary meristem

D. All the above

Answer: C

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23. A common structural feature of vessel elements and sieve tube elements is

A. Enucleate condition

B. Non living nature

C. Thick secondary wall

D. Pores on lateral walls

Answer: A

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24. Identify the plant tissue in which lignin is absent

A. Collenchyma

B. Sclerenchyma fibere

C. Sclerieds

D. Xylem tracheids

Answer: A

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25. During the formation of the primary plant body, specific regions o fthe ... produce dermal tissues , ground

tissues and vascular tissues.

Find the appropriate missing word

A. Apical meristem

B. Intercalary meristem

C. Secondary meristem

D. Primary meristem

Answer: A

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26. Companion cells are usually seen associatied with

A. Fibre

B. Tracheids

C. Vessels

D. Sieve tubes

Answer: D

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27. Match the columns I II and III and choose the corect comination form the options given

A. a-2-L,b-1--K,c-3-M

B. a-3-L,b-1-M,c-2-K

C. a-3-M,b-2-L,c-1-K

D. a-1-M,b-2-K,c-3-L

Answer: B

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28. The fibres associated with phloem are known as

A. Parenchymatous

B. Wood fibres

C. Surface fibres

D. Bast fibres

Answer: D

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29. Cells in which end walls are absent area

A. Parenchyma

B. Sclerencyma

C. Vessels

D. Sieve tubes

Answer: C

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30. Read the folowing statements carefully:

(a) The cells of the permanents tissues do not generally divide further

(b)Permanent tissues having amny different types of cells a are called simple tissues

(c)Permanent tissues havin all cells similar in structure and function are called complex tissues

Among these statements.

A. a and b are correct but c is incorrect

B. b and c are correct but a is incorect

C. a and c are incorrect but b is correct

D. b and c are incorrect but a is correct

Answer: D

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31. Read the following sttements carefully:

(a)It is found either as a homogenous layer or in patches

(b)Cells may be oval, sperical or polygonal and aoften contain chloroplasts

(c)Intercellular spaces are absent

(d)They provide mechanical support to the growing parts of the plant such as young stem and petiole of a leaf

These character are found in :

A. Parenchymatous simple tissue

B. Collenchymatous simple tissue

C. Sclerecymatous simple tissue

D. None of the above

Answer: B

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32. Common between sclerenchyma and collenchyma is

A. Material transport

B. Conduction of water and minerals

C. Providing buoyancy

D. Providing support

Answer: D

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33. Recoginise the figure and find out the correct matiching

A. a-axillary bud, c-leaf primordium b-diffeentitiating avascular tissue, d-shoot apical meristematic zone

B. b-axiallary bud ,d-leaf primordium a-diffeentiating vascular tissue , c-shoot apical meristematic zone

C. c-axillary bud, a-leaf primordium,d-diffentiating vascular tissue , b-shoot apical meristematic zone

D. d-axillary bud, vb- leaf primordium c-differentiating vascular tissue a- shoot apical meristematic zone

Answer: C

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34. A living mechanical tissue having cellulosic wall thickening is

A. Sclerenchyma

B. Collenchyma

C. Parenchyma and endodermis

D. Aerenchyma

Answer: B

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35. Read the following sttements and find out the incorrect statement.

A. Jute flax and hemp are sclerechymatous fibres

B. The first formed primary phloem called protophloem consistts of bigger sieve tube and later formed phloem called metaphloem has narro sieve tubes

C. Phloem parenchyma is absent in most of the monocotyuledons

D. Bast fibres are made up of sclerenchymatous cells They are generally absent in the primary pholem but are found in secondary phloem

Answer: B

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36. Which of the following are simple tissues

A. Parenchyma, collenchyma and sclerenchyma

B. Parenchyma, xylem and collenchyma

C. Parenchyma, xylem and sclerenchyma

D. xylem and phloem

Answer: A

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Section A Topicwise Questions Topic 2 The Tissue System Epidermal Tissue System Ground Tissue

1. Read the folloing statements and find out the correcty statements

A. Xylem parencyma is only living component of xylem and pholem fibre (bast fibre) is only dead component of the phloem

B. The structure and function of tissues would also be dependent on the location

C. On the basis of their structure and location there are three types of tisues systems namely dermal fundamental and conducting tissue system

D. All of the above

Answer: D

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2. Which of the following is not a part of epidermal tissue system

A. Trichomes

B. Companion cells

C. Guard cells

D. Subsidiary cells

Answer: B

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3. Fill in the blanks:

a.In ...1.. Type of vascular bundles the xyulem and phloem are situatted at the same readius of vascular bundles.Such vascular bundles are common in ..2..

b.When xylem and phloem within a vascular bundle are arranged in an alternate manner on different radii the arrangement is called ..3.. such as in ...4..

A. 1-radial,2-conjoint,2-stem and leaves 4-roots

B. 1-radial,3-conjoint,4-stem and leaves, 2-roots

C. 3-radial, 1-conjoint,2-stem and leaves,4-roots

D. 3-radial, 1-conjoint,4-stem and leaves,4- roots

Answer: C

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4. Recognise the figure and find out the correct matching

A. a-subsidiary cell, b-guard cell, c-epidermal cell, d-stomatal pore

B. b-subsidiary cell,a-guard cell,c-epidermal cell,d-stomatal aperture

C. b-subsidiary cell, c- gurard cell, a -epidermal cell , d-stomatal p[ore

D. a-subsidiary cell,d-guard cell, b- epidermal cell a-stomatal aperture

Answer: C

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5. Which of the following is not related to the structure fof stomata?

A. Epidermal cells

B. Guard cells

C. Sclerenchymatous cells

D. Asscessory cells

Answer: C

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6. Read the following statement and find out the incorect statement (s).

A. Ground tissue system consists of complex tissues

B. The epidermal tissue system forms the outermost covering of whole body and comprises epidermal cells, stomata and the epidermal appendages -the trichomes and hairs.

C. Root hairs are unicellular elongations while truchomes in the shoot system are usually

multicellular and help absorb water and minerals

D. All of the above

Answer: A

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7. Trichomes take part in

A. Transpiration and exchanges of gases

B. Protection and reduction of transpiration

C. Exudation of water drops

D. Desiccation

Answer: B

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8. Match the columnsI,II and III and choose the correct combination from the options given

A. a-3-M,b-2-L,c-1-K

B. a-2-M,b-3-L,c-1-K

C. a-3-K,b-2-L,c-1-M

D. a-2-K,b-3-M,c-1-L

Answer: C

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9. The trichomes may be branhed or unbranched and soft or stiff.They may even by secreatory .The trichomes hep in

A. loss of water due to transpiration

B. absorpiton of water and minerals

C. preventivng water loss due to transpiration

D. transpiration and gaseous exchange

Answer: C

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10. Fill in the blanks :

a.In the ...1.. The vascular bundles have no cambium

present in them .Hence since they do not form secondary tissue they are referered to as ..2..

b.In...3..stems cambium is present betweeen phloem and xylem such vasuclar bundles becuse of the presence of cambium possess the ability to form secondasry xylem and [hloem tissues and hence called ...4.. vascular bundles

A. 1-monocotyledons, 3-dicotyledons, 2-open, 4-c closed

B. 3-monocotyledons, 1-dicotyledons,2-open 4-closed

C. 1-monocotyledons, 3-dicotyledons, 4-open, 2-c closed

D. 3-monocotyledons, 1-dicotyledons, 4-open, 2-c closed

Answer: C

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11. All tissue except epidermis and vascular bundles constitute the

A. Dermal tissue

B. Fundamental/Ground tissue

C. Conducting tissue

D. Vascular tissue

Answer: B

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12. Pith is a central part of the ground tissue generally made up of

A. Collenchyma

B. Parenchyma

C. Chlorenchyma

D. Sclerenchyma

Answer: B

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13. The following fiure represetn the stomatal apparautus

A. Dumb bell shaped guard cells and found in grasses

B. Bean shaped guard cells and found in grasses

C. Dumb bell shaped guard cells and found in dicots

D. Bean shaped guard cells and couund in dicots

Answer: A

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14. Separate xylem and phloem bundles are known as

A. Radial

B. Amphivasal

C. Collateral

D. Bicollateral

Answer: A

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15. The conjoint vascular bundles usually have the phloem located on the

A. outer side of xylem

B. Inner side of xylem

C. Both sides of xylem

D. Middle of the xylem

Answer: A

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Section A Topicwise Questions Topic 3 Dicotyledonous And Monocotyledons Root

1. Which of the following is correct sequence of layers in typical monocot root (from outer surface to inside)

A. Epidermis, endodermis, cortex, vascular bundles, pericycle and pith

B. Epidermis, endodermis, cortex, pericycle, vascular bundles and pith

C. Epidermis, cortex , endodermis, vascular bundles, pericycle and pith

D. Pericycle, epidermis, endodermis, pith, cortex and vascular bundles

Answer: C

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2. Casparian stips contain

A. Cutin

B. Pectin

C. Suberin

D. Wax

Answer: C

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3. in case of dicot roots the cork cambium derived from

A. Hypodermis

B. Epidermis endodermis, cortex pericycle,vascular bundles and pith

C. Pericycle

D. Cortex

Answer: C

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4. The tangential as well as radial walls of the endodermal cells have a deposition of water impermeablewaxy

material suberin in the form of

A. Starch sheath

B. Casparian strips

C. Conjuctive tissue

D. Bundle sheath

Answer: B

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5. polyarch and exarch condition is found in

A. Monocot stem

B. Monocot root

C. Dicot stem

D. Dicot root

Answer: B

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6. Recongnise the figure and find out the correct matching

A. a-cortex,b-endordermis,c-percycle,d-protoxylem,e-metaxylem

B. b-cortex,c-endordermis,a-percycle,e-protoxylem,d-metaxylem

C. a-cortex,c-endordermis,b-percycle,d-protoxylem,e-metaxylem

D. a-cortex,b-endordermis,e-percycle,d-protoxylem,e-metaxylem

Answer: A

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7. Root hairs are

A. always unicellular

B. sometimes unicellular

C. sometimes multicellular

D. always multicellular

Answer: A

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8. Lateral roots originate from

A. Epiblema

B. Pericycle

C. Cortex

D. Endodermis

Answer: B

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9. Monocot root has

A. Cambium ring, vascular bundles two to four pith is large and well developed

B. Radial vascular bundles polyarch xylem , no secondary growth

C. Usually more than six xylem bundles pith is small or inconspicous , conjunctive tissue

D. Both B and C

Answer: B

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10. Endodermis is a part of

A. Epidermal system

B. Intrastellar tissue

C. Extrastelar tissue

D. Vascular tissue

Answer: C

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11. Endodermis is a part of

A. Medulla

B. Stelle

C. Cortex

D. Exodermis

Answer: C

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12. Fill in the blanks:

a In dicot root, the cortex consists of several layers of thin walled parenchyma cells ...1.. Intercellular spaces

b The innermost layer of the cortex is called ..2.. It

comprises ...3.... layers(s) of barrel shaped cells ...4... intercellular spaces

A. 1-without,2-hypodermis, 3-several-with large

B. 1-without, 2-endodermis, 3-single,4-with large

C. 1-with, 2-endodermis, 3-several,4-without any

D. 1-with, 2-endodermis, 3-single,4-without any

Answer: D

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13. Recognise the figure and find out the correct matching

A. a-endodermis,b-phloem,c-metaxylem,d-protoxylem,e-pericycle

B. a-endodermis,e-phloem,d-metaxylem,c-protoxylem,b-pericycle

C. a-endodermis,e-phloem,d-metaxylem,b-protoxylem,c-pericycle

D. b-endodermis,a-phloem,e-metaxylem,c-protoxylem,d-pericycle

Answer: B

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14. Waxy coating on epidermis of young stem is

A. Suberin

B. periderm

C. Phellem

D. Cuticle

Answer: D

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15. monocot root differs from dicot root in having

A. open vascular bundles

B. Scattered vascualr bundles

C. Well developed pith

D. Radially arranged vascualr bundles

Answer: C

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Section A Topicwise Questions Topic 3 Dicotyledonous And Monocotyledonous Root

1. Read the following statements and find out the incorrect statement about dic ot root

A. Next to endodermis lies a few layers of thick walled sclerenchymatous cells referred to as pericycle

B. The pith is small or inconspicuous

C. The parenchymatous cells which lie in between the xylem and phlpoem are called conjuctive tissue

D. There are usually two to four xylem and phloem patches

Answer: A

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Section A Topicwise Questions Topic 4 Dicotyledonous And Monocotyledonous Stem

1. Which statement incorrect about dicot stem?

A. Collenchymatous hypodermis, sclerecnchymatous pericycle, parenchymatous pith

B. Ring arrangement of vascualr bundles parenchymotous medullary rays and endodoermal strach sheateh

C. Multiple layered cortex , semi lunar pericycl,e, conjoint , open and endarch protoxylem

D. None of the above

Answer: D

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2. vascular bundles in dicot stem are

A. Open ,collateral ,endarch

B. Closed ,collateral ,endarch

C. open, collateral, exarch

D. Closed,collateral ,exarch

Answer: A

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3. Recognise the figure

A. Figure 'a' shows T.S of dict stem as it has scattered vascular bundle ,while figure 'b' shows T.S of monocot stem as it has ring arrangement of vascular bundles.

B. Figure 'a' shows T.S of dicot stem as it has ring arrangement of vascular bundles while figure 'b' shows T.S of monocot stem as it has scattered vascualr bundle

C. Figure 'a' shows T.S of dicot stem as it has ring arrangement of vascualr bundles hwile figure 'b' shows T.S of monocot stem as it has ascattered vascualr bundle

D. Figure 'a' T.S of monocot stem as it has ring arrangement of vascualr bundles while figure 'b' shows T.S of dicot stem as it has scattered vascua,lr bundles .

Answer: B

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4. Read the following statements and find out the incorrect statement about monocot stem.

A. A larger number of scattered vascular bundles

B. Each vascular bundle surrounded by a parenchymatous bundle sheath

C. Peripheral vascular bundles are generally smaller than the centrally located ones

D. Water containing cavities are present within the vascular bundles

Answer: B

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5. Well developed pith is found in

A. Monocot root and monocot stem

B. Monocot stem and dicot root

C. Monocot root and dicot stem

D. Dicot root and dicot stem

Answer: C

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6. In dicot stem the cells arranged in multiple layers between epidermis and pericycle constitute the cortex. It consists of three sub zone form outer to inner as follows

A. Epidermis, hypodermis, endodermis

B. Hypodermis, endodermis, pericycle

C. Hypodermis, endodermis, starch sheath

D. Hypodermis , cortical layers endodermis

Answer: D

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7. Vascular bundles of monocot stem are

A. Conjoint, collateral and open

B. Conjoint, collateral and closed

C. Conjoint, bicollateral and open

D. Conjoint, concentric and closed

Answer: B

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8. Which of the following layer in dicot stem provies mechanical strength to the young stem?

A. Epidermis

B. Hypodermis

C. Endodermis

D. Cortical layer

Answer: B

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9. Vascular bundles are scattered in

A. Monocot stem

B. Monocot root

C. Dicot stem

D. Dicot root

Answer: A

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10. Recognise the figure and find out the correct matching

A. b-monocot root,a-monocot stem,d-dicot root,c-dicot stem

B. a-monocot root,b-monocot stem,c-dicot root,d-dicot stem

C. d-monocot root,c-monocot stem,b-dicot root,a-dicot stem

D. c-monocot root,d-monocot stem,a-dicot root,b-dicot stem

Answer: C

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11. In a dicot stem there are a few layers of radially placed parenchymatous cells in between the vascular bundles , called

A. Medullary rays

B. Conjunctive tissue

C. Starch sheath

D. Casparian strip

Answer: A

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12. what is correct about monocot stem

A. Hypodermis is sclerrenchymatous, vascular bundles are closed phleoem parenchyma is absent

B. Hypodermis is sclerrenchymatous, vascular bundles are open phleoem parenchyma is absent

C. Hypodermis is sclerrenchymatous, vascular bundles are closed phleoem parenchyma is present

D. Hypodermis is sclerrenchymatous, vascular bundles are open phleoem parenchyma is present

Answer: A

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13. Four radial bundles occur in

A. Monocot root

B. Dicot root

C. Monocot stem

D. Dicot stem

Answer: B

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Section A Topicwise Questions Topic 5 Dorsiventral Dicotyledonous And Isobilateral Monocotyle

1. Find out incorrect statement about dorisiventral leaf.

A. The adaxial epidermis generally bears more stomata than the abadxial epidermis .The abaxial epidermis may even lack stomata

B. The tissue between the upper and the lower epidermis is called mesophyll which is made up of parenchgyma

C. The veins vary in thickness in the reticlulate venation of the dicot leaves

D. The vascular bundles are surrounded by a layer of thick walled bundle sheath cells

Answer: A

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2. In monocots

A. Leaves have reticulate venation

B. Stems have annual rings

C. Seeds have two storage organs

D. Stems have scattered conducting strands

Answer: D

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3. In dicot leaves size of vascular bundles are dependent on the

A. Size of the leaves

B. Size of the mesophyll cells

C. Size of the veins

D. Size of the bundle sheath cells

Answer: C

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4. Mathch the columns I and II and choose the correct combination from the option given

A. a-1,b-3,c-2

B. a-2,b-4,c-1

C. a-3,b-1,c-2

D. a-2,b-3,c-1

Answer: A

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5. Consider the following statement and choose the correct option

(i) The thread like cytoplasmic strands, running from one cell to other is known as plasmodesmata

(ii) Xylem and phloem constitute the vascular bundle of

the stem

(iii)The first form xylem elements are described as metaxylem

(iv) Radial vascular bundles are mainly found in the leaves

A. a,b-true,c,d-wrong

B. d-true,a,b,c-wrong

C. c-true,ab,d-worng

D. b-true,a,c,d-wrong

Answer: A

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6. The large , empty and colourless cells present at intervals on the upper surface of grass leaf are called

A. Accessory cells

B. Bulliform cells

C. Palisade parenchyma

D. Spongy parenchyma

Answer: B

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7. In the isobilateral leaf

A. The stomata are present on both the surfaces of the epidermis

B. Meosophyll is not differentiated into palisade and spongy parenchyma

C. The parallel venation is reflected in the near similar size of vascular bundles (except in main veins)

D. All of the above statements are correct.

Answer: D

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8. what differentiates a dicot leaf from monocot leaf

A. Stomata only on upper side

B. Differentiation of plaisade and spong

C. Parallel venation

D. Stomata on both upper and lower sides

Answer: B

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9. cells of Grass leaves which help in minimising cuticular transpiration are

A. Bulliform cells

B. Guard cells

C. Subsidiary cells

D. Endodermal cells

Answer: A

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10. Recognise the figure fand find out the correct matching

A. a-abaxial epidermis,d-adaxial epidermis, c-palsade fmesophuyll,b-spongy mesophyll,e-xylem,f-phloem

B. d-abaxial epidermis,a-adaxial epidermis, b-palsade fmesophuyll,c-spongy mesophyll,f-xylem,e-phloem

C. a-abaxial epidermis,d-adaxial epidermis, c-palsade fmesophuyll,b-spongy mesophyll,f-xylem,e-phloem

D. d-abaxial epidermis,a-adaxial epidermis, b-palsade fmesophuyll,c-spongy mesophyll,e-xylem,f-phloem

Answer: B

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11. Mesophyll is differentiated in to palisade and spongy tissues in

A. Extremely xerophytic leaves

B. Hydrophytic leaves

C. Monocot leaves

D. Dicot leaves

Answer: D

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12. When the bulliform cewlls in the leavbes have absorbed water and are ...1.... The leaf..2... .when they are ..3... due to water stress, they makes the leaves ..4.. To minimise water loss Fill in the correct choice

A. 1-flaccid ,2-curl inward,3-turgid,4-surface is exposed

B. 1-turgid, 2-surface is exposed,3-flaccid,4-cural inward

C. 1-flaccid,2-surface is exposed,3-trugid,4-curl inward

D. 1-turgid,2-curl inward, 3-flaccid,4-surface is exposed

Answer: B

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13. Vascular bundles occur in a leaf

A. Entire lamina

B. Palisade parenchyma

C. Spongy parenchyma

D. Veins and veinlets

Answer: D

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14. Recognise the figure and find out the correct matching

A. a-abaxial epiderms,c-adaxial epidermis, b-xylem,d-phloem

B. c-abaxial epiderms,a-adaxial epidermis, b-xylem,d-phloem

C. a-abaxial epiderms,c-adaxial epidermis, d-xylem,b-phloem

D. c-abaxial epiderms,a-adaxial epidermis, d-xylem,b-phloem

Answer: B

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15. In dorsiventral leaves stomata occur

A. more on upper palisade containing surface and les on spongy parenchyma containing lower surface

B. fewer on upper surface and more on lower surface

C. equally on both

D. none of the two surfaces

Answer: B

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Section A Topicwise Questions Topic 6 Secondary Growth Vascular Cambium Cork Cambium And Seco

1. In dicot stems the cells of cambium present between primary xylem and primary pholem are called

A. Intrafascicular cambium

B. Interfascicular combium

C. Cork cambium

D. Vascular cambium

Answer: A

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2. The function of cork cambium (phellogen) is to produce

A. Secondary xylem and secondary phloem

B. Cork and secondary cortex

C. Secondary cortex and phloem

D. Cork and Secondary xylem

Answer: B

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3. Recoginise the figure and find out the correct matching

A. a-primary phloem, b-primary xylem,c-vascular cambium, d- interfascicular cambium

B. b-primary phloem, a - primary xylem, c-vasuclar cambium,d-interfascicular cambium

C. a-primary phloem, b-primary xylem,d-vascular cambium,c-interfascicular cambium

D. b-primary phloem , a- primary xylem, d- vascular cambium ,c- interfascicular cambium

Answer: B

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4. During secondarry growth , at same places ,the cambium forms narrow band of parenchyma, which passes through the secondary xylem and the secondary phloem in the radial directions. These are called

A. Medullary rays

B. Phelloderm

C. Secondary medullary rays

D. Fascicular cambium

Answer: C

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5. Which of the following statements are correct about heartwood?

(a). It does not help in water conduction

(b). It is also called alburnum

(c). It is light in colour and is very soft

(d). It has tracheray elements which are filled with tannins, resins etc.

A. b,c,d

B. a,b,c

C. b,d

D. a,d

Answer: D

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6. The activity of cambium is under the control of -

A. Enivronmental factors

B. Physiological factors

C. Both A and B

D. None of the above

Answer: C

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7. which is not part of periderm

A. Phellogen

B. secondary cortex

C. cork

D. Wood

Answer: D

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8. Match the columns I II and III and choose the correct combination from the options given

A. a-1-K-L-Q,b-2-M-N-R

B. a-1-M-N-R,b-2-K-L-Q

C. a-2-K-N-Q,b-1-L-M-R

D. a-2-K-M-R,b-1-K-N-Q

Answer: C

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9. The climatic conditons are not uniform through the year in

A. Temperate regions

B. Tropical regions

C. Tropics and sub tropics

D. All of the above

Answer: A

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10. Recognise the figure and find out the correct matiching

A. a-secondary phloem, b- secondary xylem, c-cambium ring , d-medullary rays

B. b-secondary phloem,a-secondary xylem,c-cambium ring,d-medullary rays

C. a-scondary phloem, b- secondary xylem,d-cambium ring,c-medullary rays

D. b-secondary phloem, a- secondary xylem, d-cambium ring , c - medullary rays

Answer: C

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11. Cambium is a lateral meristem that takes part in

A. Internodal growth

B. Axial growth

C. Growth of branches

D. Increasing girth of stem and root

Answer: D

12. Fill in the blanks:

In older trees , the greater part of ...a.... Is dark brown due to deposition of tannins, resins, oil, guns, aromatic substances and essential oil in the central layers of the stem. These substances make it hard durable and resistant to the attacks of microorganisms and insects .This region is called .. b ...

A. a- secondary xylem, b- sapwood

B. a- secondary xylem, b- heartwood

C. a- secondary phloem,, b- softwood

D. a- secondary xylem, b- hardwood

Answer:

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13. cellular layers form outside to inside in old dicot stem are

A. Epidermis, phellem , phellogen, phelloderm

B. Epidermis, hypodermis, cortex, endodermis

C. Epidermis, phellogen,phellem, endodermis

D. Epidermis, hypodermis, phellogen,phelloderm

Answer: A

14. The peripheral region of the secondary xylem is lighter in colour and known as the

A. Spring wood and gives mechanical support to the stem

B. Sapwood and gives mechanical support to the stem

C. Heartwood and involved in condution of water and minerals

D. Sapwood and involved in conduction of water and minerals

Answer: D

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15. older resin-clogged central seconedary xylem and younger outer secondary xylem are respectively known as

A. Alburnum amd duramen

B. Duramen and alburnum

C. Heart wood and sap wood

D. Both B andC

Answer: D

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16. Recognise the figure and find out the correct matiching

A. a-phellem, b- lenticel, c-phellogen, d-phelloderm

B. a=epidermis,b-complimentary cells, c- cork cambium, d=secondary cortex

C. a-epidermis,b-complimentary cells, c- phellogen, d-phelloderm

D. Both B and C are Correct

Answer: D

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17. Read the following statements and find out the incorrect statement

A. Phellogen develops usually in the cortex region

B. Phellogen is couple of layer thick

C. The cells of the secondary cortex are parenchymatous

D. The cork is impervious to water due to lignin deposition in the cell wall

Answer: D

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18. vascular cambium of stem is

A. Primary meristem

B. Partly primary and partly secondary

C. secondary meristem

D. Intercalary meristem

Answer: B

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19. Which of the following statement is / are not true

A. Cork cambium is otherwise called phellogen

B. Cork is otherwise called phellem

C. Secondary cortex is otherwise called periderm

D. Cork cambium, cork and secondary cortex are collectively called phelloderm

A. c and d only

B. a and b only

C. b and c only

D. b and d only

Answer: A

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20. Recognise the figure and find oput the correct matching

A. b-epidermis,c-pericycle,d-protoxylem,a-primary phloem

B. b-epidermis, c-periccycle,a-protoxylem, d-primary phloem

C. c-endodermis,b-pericycle,d-protoxylem,a-primary phloem

D. c-endodermis,b-pericycle,a-protoxylem,d-primary phloem

Answer: A

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21. Cambium ring in dicot stem consist of

A. Interfascicular cambium

B. Intrafascicular cambium

C. Both A and B

D. Phelloderm

Answer: C

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22. meristem present in a vascular bundle is

A. Fascicular/Intrafascicular cambium

B. Interfascicular cambium

C. Phellogen

D. Procambium

Answer: A

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23. Which meristem helps in increasing girth?

A. Lateral meristem/cambium

B. Intercalary meristem

C. Primary meristem

D. Apical meristem

Answer: A

24. Among the following , secondary growth is seen in a-dicot root, b-dicot stem, c-monocot root, d-monocot stem, e-gymnosperm root, f-gymnosperm stem

A. a,b,c and d

B. c,d,e andf

C. a,b,e and f

D. All of the above

Answer: C

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25. Cork/bottle cork is formed from

A. Cork cambium (phellogen)

B. Vascular cambium

C. Phloem

D. Xylem (wood)

Answer: A

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26. Recognise the figure and find out the correct matching

A. d-primary xylem,c-secondary xylem, b- vascular cambium, a-secondary phloem

B. c-primary xylem,d-secondary xylem,a-vascular cambium, b-secondary phloem

C. b-primary xylem,a-secondary xylem,c-vascular cambium,d-secondary phloem

D. a-primary xylem,b-secondary xylem, d- vascular cambium, c- secondary phloem

Answer: B

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27. In dicot root showing secondary growth, cork is found

A. External to primary cotex

B. Inner to epidermis and outr to pericycle

C. Outer to endodermis and inner to primary cortex

D. Inner to endodermis and external to primary phloem

Answer: B

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Section B Assertion Reasoning Questions

1. Assertion: Both apical meristem and intercalary meristem areprimary meristems.

Reason: Both of these meristems appear early in life of a plant and help in the formation of the primary plant body.

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2. Assetion : collenchyma, sclerenchyma and xylem provide mechanical suppot to the plant body ltbvrgt Reason: Their cell walls are thick and lignified

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3. Assertion: The companion cells help in maintaining the pressue gradient in sieve tube

Reasons: The companion cells are specialished parenchymatous cells which are closely associated with sieve tube elements

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4. Assetion: The stmatal pore, guard cells and the surrounding subsidiary cells are tohether called stomatal aperture.

Reason: The outer walls of guard cells (alway from stomatal pore) are highly thickened and the inner walls (towards the stomatal pore) are thin

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5. Assertion: The ground tissue system forms the main bulk of the plant It is divided into three zones - cortex pericycle and pith

Reason: In leaves, the ground tissue consists of thin walled chloroplast containing cells and is called mesophyll

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6. Assertion: For a better understanding of tissue organisation ofroots stems and leaves it is convenient to study the tansverse sections of the matures zones of these organs

Reason: The vertical section of a dorisventral leaf through the lamina shows three main parts , namely epidermis, mesophyll and vascular system

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7. Assertion: During secondry growth, the amount of secondary xylem produced is more than secondaryt phloem and soon forms a compact mass.

Reason: The vascular cambium (cambial ring) is generally more active on the inner side than on the outer side

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8. Assertion: In the dicot root the vascualr cambium is completely secondary in roigin

Reason: Vascular cambium originates from the tissue located just below the phloem bundles a portion of pericycle tissue above the protoxylem forming a complete and contiuous wavy ring, which later becomes circular

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9. Assertion: Monocotyledonous and dicotyledonous plants shownmarked variation in their internal structures.They differ in type , number and location of vascular bundles

Reason: The secondary growth occurs in most of the

dicotyledonous roots and stems and it increases the girth (diameter) of the organs by the activity of the vascular cambium and the cork cambium

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10. Assetion : There are different types of wood on the basisi of their comp[osition and time of production

Reason: The wood is actually a secondary xylem.

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11. Assertion: The plant tissues are brodly classified in to meristematic (apical, lateral and intercalary) and permanent (simple and complex).

Reason: On the basis of presence of cambium, location of xylem and phloem, the vascualr bundles are of different types

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12. Assertion: The spring woood is lighter in colour and has a higher denistiy wheras the autumn wood is darker and has a lower density .

Reasons: In the spring season, cambium is less active while in winter the cambium is very active

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Section D Chapter End Test

1. Tyoses occur in

A. Secondary xylem

B. Secondary phloem

C. Callus tissue

D. Cork cells

Answer: A

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2. A dicot plant in which scattered vascular bundles are present in stem is

A. Gelianthus

B. Pepromia

C. Yucca

D. Dolichos

Answer: B

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3. Which of the following in not found in pinus?

A. Bordered pits

B. Resin canals

C. Xylem tracheids and needles

D. Manoxylic wood

Answer: D

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4. When phloem is completely surrounded by xylem, the vascular bundle is called

A. Concentric leptocentric / Amphivasal

B. concentric hydrocentric/amphicribral

C. conjoint collateral

D. conjoint bicollateral

Answer: A

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5. Histogens are component of or The histogens are differentiated in

A. Secondary phellogen

B. Apical meristem

C. Lateral meristem

D. Intercalary meristem

Answer: B

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6. The cambium which produces cork is known as

Or

The common bottle cork is a porduct of

Or

The meristem that is parallel to the longitudinal axis of the plant is

A. Procambium

B. Intercalary meristem

C. Phellogen

D. Apical meristem

Answer: A

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7. Which ones among the following are corect?

(a)Uneven thickening of cell wll is characteristic of sclerenchyma

(b)periblem forms acortex of stem and root

(c)Tracheids are chief water conduting elements in gymnosperms

(d) Commerical cork is obtained from quercus suber

A. b,c

B. a,d

C. b,e

D. c,d

Answer: A

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8. Match the items in Column-I with Column-II and choose the correct option

	Column−1		Column−2
$A.$	Radial Vascular Bundle	1.	Cucurbita pepo
$B.$	Collateral Vascular Bundle	2.	Dracaena
$C.$	Bicollateral Vascular Bundle	3.	Roots of angiosperms
$D.$	Amphicribal Vascular Bundle	4.	Sunflower stem
$E.$	Amphivasal Vascular Bundle	5.	Fern

A. 1-c,2-d,3-a,4-e,5-b

B. 1-b,2-d,3-a,4-e,5-d

C. 1-c,2-d,3-e,4-a,5-d

D. 1-d,2-e,3-a,4-b,5-c

Answer: A

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9. dendrochronology is the study of

A. Hieght of a tree

B. Diameter of a tree

C. Age of the tree by counting the number of annual rings in the main stem

D. None of these

Answer: C

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10. Apical meristem of root is present

A. Only in radicles

B. Only in tap roots

C. Only on adventitious roots

D. in all the roots

Answer: A::D

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11. Cells of quescent centre are characterized by

A. Denese cytoplasm and prominent nuclei

B. Light cytoplasm and small nuclei

C. Dividing regulary to add to the corpus

D. Dividing regularly to add to tunica

Answer: B

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12. Gymnosperm are soft wooded as they lack

A. Lacks cambium

B. Lacks vessels

C. Does not yield timber

D. None of the above

Answer: B

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13. Vessels are major water conducting cells in

A. Dicots only

B. Monocots only

C. Angiosperms

D. Pteridophytes and gymnosperms

Answer: C

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14. Vessels occur in

A. All angiosperms, all gymnosperms and some pteridophytes

B. All angiosperms and some gymnosperms

C. Most angiosperms, a few gymnosperms and pteridophytes

D. All pteridophytes

Answer: C

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15. Which of the following have sunken stomata

A. Mango

B. Guava

C. Hydrilla

D. Nerium

Answer: D

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16. Bulliform or motor cells are present in

A. upper epidermis of dicot leaves

B. upper epidermis of monocot leave

C. Lower epidermis of monocot leaves

D. Lower epidermis of dicot leaves

Answer: B

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17. The sugarcane plant has

A. Reticulate venation

B. Capsular fruits

C. Pentamerous flower

D. Dump bellshaped gurad cells

Answer: A::D

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18. In dorsiventral leaf, stomata

A. Occur on both the layers of epidermis

B. Occur on lower epidermis

C. Occur in pits on the upper epidermis

D. Don not occur on the epidermis

Answer: B

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19. in autumn or winter, cambium produces

A. sap wood

B. heart wood

C. early wood

D. late wood

Answer: A::D

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20. xylem in dorsiventral leaves is directed towards

A. upper epidermis of dicot leaves

B. Lowser epidermis

C. Phloem parenchyma is absent in most of the monocotyuledons

D. cortex

Answer: A

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21. in a plant organ covered by periderm , the stomata are absent. Gaseous exchange occurs thorugh

A. Aernchyma

B. Lenticles

C. Trichomes

D. Pneumatophores

Answer: B

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22. cambium is most active in

A. Summer

B. Winter

C. All seasons

D. Snow areas

Answer: A

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23. In a dicotyledonous stem, the sequence of tissues from the outside to the inside is

A. Phellem-pericycle-endodermis-phloem

B. phellem-phloem-endodermis-pericycle

C. phellem-endodermis-pericycle-phloem

D. pericylce-phellem-endodermis -phloem

Answer: C

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24. Wood is a common name of

A. cambium

B. vascular bundles

C. phloem parenchyma is absent in most of the monocotyledons

D. secondary xylem

Answer: D

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25. What is true about heartwood?

A. It does not help in water transport

B. It is resistant to bacterial infections

C. It is made up of degenerated cells

D. All of the above

Answer: A::D

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26. each annual ring or growth ring consists of two strips of

A. Spring wood and early wood

B. Only spring wood

C. Only autumn wood

D. Spring wood and autumn wood

Answer: D

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27. Main function of lenticles is

A. Transpiration and exchanges of gases

B. Guttation

C. Bleeding

D. Gaseous exchange

Answer: A::D

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28. periderm is produced by

A. Vasuclar cambium

B. Fasicular cambium

C. Phellogen

D. Intrafascicular cambium

Answer: C

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29. Which is an example of secondary meristem ?

A. Xylem

B. Pheloem

C. Phellem

D. cork cambium

Answer: A::D

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30. motor cells take part in

A. Guttatioon

B. Transpiration

C. Inrolling

D. All of the above

Answer: C

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31. radial vascular bundles occur in

A. Dicot root

B. Monocot root

C. All roots

D. Dicot stem

Answer: C

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32. Which of the followong sttements is true?

A. Collenchyma occurs in layers below epidermis in monocot plants

B. Xylem parenchyma cells are living thin walled and lignified fibre

C. Ssclerechyma cells are usually dead and without protoplasts

D. Companion cells are specialized sclerenchyma cells

Answer: C

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33. lenticles are patches of

A. Loose cells in leaves

B. Loose cells on bark for aeration

C. Subsidiary cells of stomata

D. Cells for respeiation in epiphytes

Answer: B

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34. outer lighter coloured/alburnum region of wood is

A. Autumn wood

B. Spring wood

C. Heart wood and sap wood

D. Sapwood and involved in conduction of water and minerals

Answer: A::D

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35. Physioloigcally functional xylem of old dicot tree is

A. Sap wood

B. Autumn wood

C. Heart wood and sap wood

D. Hard wood

Answer: A

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36. Intercalry meristem is found in

A. Roots

B. Ground tissue

C. Petioles and internodes

D. non of the above

Answer: C

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37. Which one may contain chloroplasts ?

A. Collenchyma and sclernechyma

B. Sclerenchyma and parenchyma

C. Collenchyma and pith

D. Collenchyma and parenchyma

Answer: A::D

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38. Tetrarch bundles occcur in

A. Leaf of cicer arientinum

B. Leaf of pisum sativum

C. Root of cicer arietinum

D. Root of zea mays

Answer: C

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39. Branch of botany dealing with internal organisation of plants is

A. Physiology

B. Anatomy

C. Ecology

D. Cytology

Answer: B

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40. Protoxylem is towards pith and metaxylem is towards periphery in

A. exarch condition of root and stem

B. Endarch condition

C. Measarch condition

D. Centrach conditon

Answer: B

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41. A simple tissue with both mechanical and phgyfsiological funcion in youn dicotyledonous plant is

A. Meristematic tissue

B. parenchyma

C. Sclerenchyma cells

D. Collenchyma

Answer: A

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42. A major difference between phloem of angiousperms and gymnosperms is

A. Sieve tube

B. Medullary rays

C. Bast fibre

D. All of the above

Answer: A

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43. The dividing cells not yet commiotted to becomes specifice cell type are

A. Epidermal cells

B. Ground cells

C. Periderm cells

D. Meristem cells

Answer: A

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44. Parenchymatous cells filling the space between dermal and vascular tissue is

A. Ground tissue

B. Epidermal tissue

C. Pith fibres

D. Vascualr bundles

Answer: A

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45. The acitvity of sieve tubes is remotely controlled by the nucleus of

A. Phloedm paenchyma

B. Companion cells

C. Phloem fiber

D. Both phloem parnchyma and phloem fibers

Answer: A::D

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46. Parencymatous tisue is characterized by the presence of

A. Thichkining at corners

B. Lignified walls

C. More than one type of cells

D. Intercellular spaces

Answer: D

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47. Collenchyma is

A. Living with no reserve food

B. Living with protoplasm

C. Dead and hollow

D. none of the above

Answer: B

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48. Which group possesses vessels in its xylem?

A. Pteridophytes

B. Angiosperms

C. Gymnosperms

D. Both B and C

Answer: B

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49. Secondary meristem producesf

A. Basal growth

B. Radial growth

C. Transverse growth

D. Vertical growth

Answer: B

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50. Seive tubes are the constitutent of

A. Wood

B. vascular cambium

C. Phellem

D. Bast

Answer: D

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Others

1. secondary growth is best observed in

A. Teak and pine

B. Deodar and Fern

C. Wheat and Maiden hair fern

D. Sugarcane and sunflower

Answer: A

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2. Passage cells are thin walled cells found in

A. Phloem elements to serve as entry points

B. Testa of seeds for emergence of embryonal axis

C. central area of style for passage of pollen tube

D. Endodermis of roots to facilitate rapid transport of water from cortex to pericycle

Answer: D

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3. Vascular tissues in flowering plants develop from

A. Dermatogen

B. Periblem

C. Pleurome

D. Phellogen

Answer: C

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4. The length of different internodes in a culm of sugarcane is variable because

A. Shoot apical meristem

B. Position of axillary buds

C. Intercalary meristem

D. Size of leaf lamina at the node below each internode

Answer: C

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5. Which one among the following is correct?

A. Tracheids are unicellular with wide lumen

B. Vessels are multicellular with wide lumen

C. Tracheids are multicellular with narrow lumen

D. Vessel are unicellular with narrow lumen

Answer: B

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6. The plant tissues commonly found in fruit walls of nuts and pulp of some fruits like guava are termed as

Or

pear fruits are gritty due to the presence of

Or

Tissue composed of thin-parenchymatous cells and have isodiametric or irregular shape is called

A. Fibers

B. Sclereids

C. Tracheids

D. Vessel

Answer: B

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7. Cuticle is absent in

A. Mesophgytes

B. young roots

C. Leaves

D. Mature stem

Answer: B

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8. In an annual ring, the light colored part is

A. Heart wood

B. Sapwood and gives mechanical support to the stem

C. Early wood

D. Late wood

Answer: C

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9. conjoint and closed vascular bundles with no phloem parenchyma are observed in

A. Monocot stem

B. Dicot stem

C. Monocot root and dicot stem

D. Dicot roots

Answer: A

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10. In barley stem vascular bundles are

A. open and scattered

B. closed and scattered

C. closed and radial

D. open and in aring

Answer: B

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11. Palisade parenchyma is absent in leaves of

A. Gram

B. Sayabean

C. Sorghum

D. Mustard

Answer: C

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12. Anatomically fairly old dicotyledonous root is distinguished from the dicotyledonous stem by

A. Position of protoxylem

B. Absence of secondary xylem

C. Absence of secondary phloem

D. presence of cortex

Answer: A

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13. endodermis of dicot stem is also called

A. Bundle sheath

B. Starch sheath

C. Mesophyll

D. Water sheath

Answer: B

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14. Which one of the following is not a lateral meristem

A. Interfascicular cambium

B. Phellogen is couple of layer thick

C. Intercalary meristem

D. Vascular cambium

Answer: C

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15. Lateral meristems are

A. Phellogen and procambium

B. Procambium and dermatogens

C. Fascicular cambium and procambium

D. Fascicular cambium and cork cambium

Answer: D

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16. A closed collateral bundle is one where

A. Xylem and phloem occurs on different radii

B. collateral bundle is without cambium

C. Xylem and phloem are separated by cambium

D. Collateral bundle is with cambium

Answer: B

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17. which of the following is not correct

A. Early wood is characterised by a large number of ylary elements

B. Late wood is characterised by a large number of xylary elements

C. Early wood is characterised by vessels with wider cavities

D. Late wood is characterised bvy vessel with narrower cavities

Answer: B

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18. Medullary rays are made up of

A. Fibers

B. Tracheids

C. Sclerenchyma cells

D. Parenchymatous cells

Answer: D

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19. heart wood differs from sapwood in

A. Absence of vessels and parenchyma

B. Having dead and non conductiing elements

C. Presence of rays and fibres

D. being susceptible to pests and pathogens

Answer: B

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20. Companion cells are closely accociated with

Or

Transport of food material in higher plants takes place through

A. Companion cells

B. Sieve elements

C. Tracheids

D. Transfusion tissue

Answer: B

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21. Ground tissue includes

A. All tissues internal to endodermis

B. Epidermis and cortex

C. All tissues except epidermis and vasculaar bundles

D. All tissue external to endodermis

Answer: C

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22. Vascular cambium and cork cambium are the examples of

A. Parts of secondary xylem and phloem

B. parts of pericylcle

C. Lateral meristems

D. Apical meristems

Answer: C

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23. Which of the following meristem calssification is based on position in the plant body ?

A. Primary meistem

B. Intercalary meristem

C. Secondary meristem

D. Procambial meristem

Answer: B

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24. Anatomically jute fibres are

A. Xylem fibres

B. Cortical fibres

C. Pith fibres

D. secondary bast or phloem fibres

Answer: D

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25. The composition of stele is

A. Pith, pericycle, vascualr bundles

B. Endodermis , pericylcle, pith

C. Endodermis, pericycle, pith

D. Endodermis, pericycle

Answer: A

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26. Open vascular bundles are those which

A. are surrounded by pericycle but no endodermis

B. are capable of producing secondary xylem and phloem

C. are not surrounded by pericycle

D. possess conjuctive tissue between xylem and phloem

Answer: B

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27. the term " bark " means

A. Phellem, phelloderm and svascualr cambium

B. Phellem, phellogen, phelloderm and secondary phloem

C. Periderm and secondary xylem

D. Cork cambium and cork

Answer: B

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28. Vascular bundles are arranged in a ring in the stem of

A. Wheat

B. Maize

C. Rice

D. Gram

Answer: D

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29. an old trunk of shisham (Dalbergia sisso) tree would have the maximum amount of

A. Primary phloem

B. Primary xylem

C. Secondary xylem

D. Secondary cortex

Answer: C

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30. Casparian thickenings are found in the cells of

Or

In dicot roots, cells of which region show casparian strips

A. Pericycle of stem

B. Endodermis of stem

C. Pericycle of root

D. Endodermis of root

Answer: D

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31. K. Esau dominated in the field of plant biology up to the age of 99 years. She conrtributed mainly in the field of

A. Morphology of flowering plants

B. Anatomy of seed plants

C. Classification of flowering plants

D. Physiology of seed plants

Answer: B

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32. Meristematic tissues in plants

A. have their walls made of cellulose

B. have intercellular spaces between them

C. store reserve food materials

D. have their walls made of chitin

Answer: A

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33. The meristem which develops into a primary vascular tissue is

Or

Portion of apical meristem that gives rise to xylem tissue is called

A. Protoxylem

B. Procambium

C. Metaxylem

D. Tracheid

Answer: B

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34. Companion cells are usually seen associatied with

A. Xylem

B. Cambium

C. Sieve tubes

D. Collenchyma

Answer: C

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35. Vascular bundles are closed when they lack

A. Ground tissue

B. conjuctive tissue

C. Cambium

D. Pith

Answer: C

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36. In which of the following sclerenchyma cells the secondary cell walls are present?

A. The cells containing cytoplasm only

B. The cells with protoplast

C. Cells which are living at maturity

D. Cells which are non living at maturity

Answer: D

37. The plant tissues commonly found in fruit walls of nuts and pulp of some fruits like guava are termed as

Or

pear fruits are gritty due to the presence of

Or

Tissue composed of nin-parenchymatous cells and have isodiametric or irrengular shape is called

A. Tracheids are unicellular with wide lumen

B. Fibres

C. Vessels

D. Sclerids

Answer: D

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38. The long plants are capable of standing erect due to presence of

A. Sclerenchyma

B. Collenchyma

C. Parenchyma and endodermis

D. Prosclerenchyma

Answer: A

39. A cut trunk shows 26 concentric rings of spring wood and autumn wood in alternate rows. The age of trunk would be

A. 13 year

B. 26 years

C. 52 years

D. 104 years

Answer: A

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40. A common character of monocot and dicot roots is

A. Exarch protoxylem

B. Endarch xylem

C. Number of xylem strands

D. Occurrence of secondary growth

Answer: A

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41. Water containing cavities in vascular bundles are found in

A. Sunflower

B. Maize

C. Cycas

D. Pinus

Answer: B

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42. Gymnosperm are soft wooded as they lack

A. Cambium

B. Phloem fibres

C. Thick walled tracheids

D. Vessels

Answer: D

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43. complementary cells occur in

A. Pericycle

B. Pith

C. Lenticels

D. Endodermis

Answer: C

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44. Collateral open vascular bundles and eustele are found in

A. Monocot stem

B. Dicot stem

C. Monocot root

D. Dicot root

Answer: B

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45. As compared to a dicot root, a monocot root has

A. more abundant secondary xylem

B. many xylem bundles

C. inconspicuous annual rings

D. relatively thicker periderm

Answer: B

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46. Radial conduction of water takes place by

A. Phyloem

B. Vessels and tracheids

C. Vessels

D. Rayparenchyma cells

Answer: D

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47. The elements of xylem tissue that store tannins are

A. Tracheids

B. Vessels

C. Xylem parenchyma

D. Xylem fibres

Answer: B

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48. Find out the wrong statement about angiosperm roots

A. Apex is protected by root cap

B. Vascular bundles are collateral

C. xylem is centripetal in young state

D. Cuticle is absent in young state

Answer: B

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49. exchange of gases between air and the internal tissues of older corky stems takes place through

A. Sieve plates

B. Pits

C. Stomata

D. Lenticels

Answer: D

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50. Commericial cork is obtained from

A. Berberis/ Barberry

B. Salix/Willow

C. Qurecus/Oak

D. Betual/Birch

Answer: C

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51. A stele with a central core of xylem surrounded by phloem is called or Actinostele is a modification of

Or

Pith is absent in

A. protostele

B. Dictystele

C. Siphonostele

D. Solenostele

Answer: A

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52. Tracheids differ from other tracheary elements in

A. Being lignified

B. Having casparian strips

C. Being imperforate

D. Lacking nucleus

Answer: C

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53. 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.

A. Cortical cells

B. secondary xylem

C. Secondary phloem

D. Protoxylem

Answer: D

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54. Bicollateral vascular bundles occur in which of the following families?

A. Cruciferae

B. Cactaceae

C. Solanaceae

D. Gramineae

Answer: C

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55. Lenticels are involved in

A. Gaseous exchanges

B. Food transport

C. Photosynthesis

D. Transpiration

Answer: A

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56. Age of tree can be estimated by

A. Biomass

B. Number of annual rings

C. Diameter of its heartwood

D. Its height and grith

Answer: B

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57. Jute , flax and hemp are fibres opbtained from

A. Xylem

B. Pericarp

C. Phloem

D. Cortex

Answer: C

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58. Which one of the following is present in the stem but not in the root ?

A. Cuticle

B. Periderm

C. Meristem

D. Secondary growth

Answer: A

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59. Read the different components from (A) to (D) in the list given below and tell he 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

A. Secondary cortex

B. Wood

C. Secondary phloem

D. Phellem

Answer: B

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60. Vascular bundle in monocotyledons are considered closed, when

A. There are no vessels with perforations

B. Xylems is surrounded all around by phloem

C. A bundle sheath surrounds each bundle

D. Cambium is absent

Answer: D

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61. A major characteristic of the monocot root is the presence of

A. Vasculature without cambium

B. Cambium sandwiched between phloem and xylem along the radius

C. open vascular bundles

D. Scattered vascular bundles

Answer: A

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62. Specialised epidermal cells surrounding the guards cells are called

A. Complementary cells

B. Subsidiary cells

C. Bulliform cells

D. Lenticels

Answer: B

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63. cortex lies between

A. Endodermis and pith

B. Endodermis and vascular bundle

C. Epidermis and stele

D. Pericycle and endodermis

Answer: C

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64. the baloon- shaped structuces called tyloses

A. Are extension s of xylem parenchyma cells into vessels

B. Are linked to the ascent of sap through xylem vessels

C. orignnate in the lumen of vessel

D. Characterize the sapwood

Answer: A

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65. The vascular cambium normally gives rise to

A. Primary phloem

B. Seconday xylem

C. Periderm and secondary xylem

D. Phelloderm

Answer: B

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66. Which of the following is made up of dead cells

A. Collenchgyma

B. Phellem

C. Phloem parenchyma

D. Xylem parenchyma

Answer: B

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67. Indentify the wrong statement in context of heartwood

A. It is highly durable

B. It conducts water and minerals efficiently

C. It comprises dead elements with highly lignified walls

D. Organic compounds are deposited in it

Answer: B

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68. Stomata in grass leaf are

A. Dumbd bell shaped

B. Kidneyv shaped

C. Rectangular

D. Barrel shaped

Answer: A

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69. Secondary xylem and phloem in dicot stem are produced by

A. Apiclal meristems

B. vascular cambium

C. Phellogen

D. Axillary meristems

Answer: B

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70. Casparian strips are present in the _____ of the root

A. Epidermis, endodermis, cortex, vascular bundles, pericycle and pith

B. Pericycle

C. Cortex

D. Endodermis

Answer: D

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71. Plants having little or no secondary growth are

A. Grasses

B. Deciduous angiosperms

C. Conifers

D. Cycads

Answer: A

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72. Porous wood contains mainly

A. Vessels

B. tracheids

C. Fibres

D. parenchyma

Answer: A

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73. passage cells occur in

A. Endodermis

B. pericycle

C. cortex

D. epiblema

Answer: A

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74. Fascicular cambium is the cambium of vascular bundle of

A. monocot stem

B. dicot stem

C. monocot leaf

D. dicot leaf

Answer: B

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75. mesophyll is differentiated into palisade and spongy tissue in

A. monocot leaf

B. isobilateral leaf

C. dorsiventral leaf

D. both (a) and (b)

Answer: C

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76. In a dicotyledonous stem, the sequence of tissues from the outside to the inside is

A. phellem-pericycle-endodermis -phloem

B. phellem-phloem-endodermis -pericycle

C. phellem-endodermis-pericycle-phloem

D. pericycle-phellem-endodermis-phloem

Answer: C

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77. The quiescent centre in root meristem serves as a

A. site for strorage of food which is utilized during maturation

B. reservoir of growth hormounes

C. reserve for replenishement of damaged cells of the meristem

D. region for absorption of water

Answer: C

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78. The sugarcane plant has

A. Dumb bell shaped guard cells and found in grasses

B. pentamerous flowers

C. reticulate venation

D. capsular fruits

Answer: A

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79. in a plant organ covered by periderm , the stomata are absent. Gaseous exchange occurs thorugh

A. aerenchyma

B. trichomes

C. pneumatophores

D. lenticles

Answer: D

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80. Companion cells are usually seen associatied with

A. vessels

B. sperms

C. seive elemets

D. guard cells

Answer: C

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81. Cork cambium results in the formation of cork which becomes impermaeabble to water due ot the accumulation of

A. resins

B. suberin

C. lignins

D. tannins

Answer: B

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82. Which one of the following statements pertaning to plant structure is correct ?

A. Cork lacks stomata but lenticels carry out transpiration

B. passage cells help in transfer of food from cortex to phloem

C. sieve tube elements possess cytoplasm but no nuclei

D. The shoot apical meristem has a quiescent centre

Answer: C

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83. Grafting is successful in dicots but not in monocots because the dicots have-

A. vascular bundles arranged in a ring

B. cambium for secondary growth

C. vessels with elements arranged end to end

D. Cork cambium and cork

Answer: B

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84. In the sieve elements, which one of the following is the most likely function of P-protein-

A. Deposition of callose on sieve plates

B. Providing energy for active translocation

C. Autolytic enzymes

D. Sealing mechanism on wounding

Answer: A

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85. Two cross sections of stem and root appear simple, when viewed by naked eye. But under microscope they can be differentiated by

A. exarch condition of root and endarch stem

B. endarch condition of stem and exarch root

C. endarch condition of root and exarch condition of stem

D. endarch conditions of stem and exarch condition of root

Answer: A

86. Which of the following statements is /are true

Uneven thickening of cell wall is characteristic of sclerenchyma

(B) Periblem forms the cortex of the stem and the root

(C) Tracheids are the chief wate transporting elements in gymnosperms

(D)Companion cell is devoid of nucleous at maturity

(E) The Commercial cork is obtained from Quercus suber

A. (a) and (d) only

B. (b) and (e) only

C. (c) and(d) only

D. (b),(c) and (e) only

Answer: D

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87. Sclerenchyma ususally and protoplasts.

A. live, without

B. dead, with

C. live, with

D. dead,without

Answer: D

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88. In stems, the protoxylem lies towards the ___ and the metaxylem lies towards the ___ of the organ

A. centre,periphery

B. periphery, centre

C. periphery,periphery

D. centre,centre

Answer: A

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89. Assertion : collenchyma is thick walled dead tissue

Reason: collenchymatous cells show thickening of pectin

A. If both assertion and reason are true and the reason is a corect explanation of the assertion

B. If both assertion and reason are true but reason is not a correct explanation of the assertion

C. If the assertion is false but reason is true

D. If both the assertion and reason are false

Answer: C

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90. Assertion In angioperms, the conduction of water is more efficient because their xylem has vessels.

Reason Conduction of water by vessel elements is an active process in which energy is supplied by xylem parenchyma rich in mitochondria.

A. If both assertion and reason are true and the reason is a corect explanation of the assertion

B. If both assertion and reason are true but reason is not a correct explanation of the assertion

C. If the assetion is true but reason is false

D. If both the assertion and reason are false

Answer: D

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91. given below are assertion and reson. Point out if

Assertion . In woody stems, the amount of heartwood continues year after year.

Reason. the cambial activity continues uninterrupted.

A. If both assertion and reason are true and the reason is a corect explanation of the assertion

B. If both assertion and reason are true but reason is not a correct explanation of the assertion

C. If the assetion is true but reason is false

D. If both the assertion and reason are false

Answer: A

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92. Assertion: pertroplants produce large amount of latex

Reason: The latex contains long chain hydrocarbons

A. If both assertion and reason are true and the reason is a corect explanation of the assertion

B. If both assertion and reason are true but reason is not a correct explanation of the assertion

C. If the assetion is true but reason is false

D. If both the assertion and reason are false

Answer: A

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93. Assertion: vessels are more efficeent for water conduction as compared to tracheids.

Reason: vessels are dead lignified

A. If both assertion and reason are true and the reason is a corect explanation of the assertion

B. If both assertion and reason are true but reason is not a correct explanation of the assertion

C. If the assetion is true but reason is false

D. If both the assertion and reason are false

Answer: B

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94. Assertion : Bulliform cells are useful in the unrolling of leaf .

Reason : Bulliform leaves store water.

A. If both assertion and reason are true and the reason is a corect explanation of the assertion

B. If both assertion and reason are true but reason is not a correct explanation of the assertion

C. If the assetion is true but reason is false

D. If both the assertion and reason are false

Answer: B

95. Assertion : long distance flow of phtoassimilates in plants occurs through sieve tubes.

Reason: mature seive tubes have parietal cytoplasm

A. If both assertion and reason are true and the reason is a corect explanation of the assertion

B. If both assertion and reason are true but reason is not a correct explanation of the assertion

C. If the assetion is true but reason is false

D. If both the assertion and reason are false

Answer: A

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96. Assertio: Apical meristem of root is subterminal

Reason: At the terminal end of root, root cap is presnet

A. If both assertion and reason are true and the reason is a corect explanation of the assertion

B. If both assertion and reason are true but reason is not a correct explanation of the assertion

C. If the assetion is true but reason is false

D. If both the assertion and reason are false

Answer: A

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97. Assertion . No sencondary groth takes place in monocots. Reason. Secondary growth is not related to cambium.

A. If both assertion and reason are true and the reason is a corect explanation of the assertion

B. If both assertion and reason are true but reason is not a correct explanation of the assertion

C. If the assetion is true but reason is false

D. If both the assertion and reason are false

Answer: C

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