



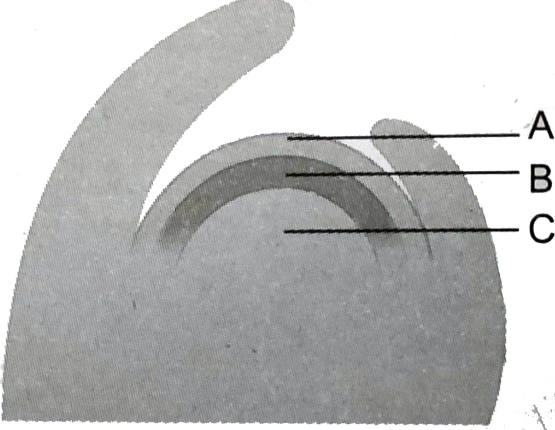
BIOLOGY

BOOKS - FULL MARKS BIOLOGY (TAMIL ENGLISH)

TISSUE AND TISSUE SYSTEM

Textbook Evaluation Solved

1. Refer to the given figure and select the correct statement.



(i) A, B, and C are histogen of shoot apex.

(ii) A Gives rise to medullary rays.

(iii) B Gives rise to cortex.

(iv) C Gives rise to epidermis.

A. i and ii only

B. ii and iii only

C. i and iii only

D. iii and iv only

Answer: C



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2. Read the following sentences and identify the correctly matched sentences.

In exarch condition, the protoxylem lies outside of metxylem. II. In endarch condition, the protoxylem lies towards the centre. III. In centrarch condition, metaxylem lies in the

middle of the protoxylem. IV. In mesarch condition, protoxylem lies in the middle of the metaxylem.

- A. i , ii and iii only
- B. ii , iii and iv only
- C. i , ii and iv only
- D. All of these

Answer: C



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3. In Angiosperms, the activity of sieve tubes are controlled by

- A. Nearby sieve tube members
- B. Phloem parenchyma cells
- C. Nucleus of companion cells
- D. Nucleus of albuminous cells

Answer: C



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4. When a leaf trace extends from a vascular bundle in a dicot stem, what would be the arrangement of vascular tissues in the veins of the leaf?

A. Xylem would be on top and phloem on the bottom.

B. Phloem would be on top and xylem on the bottom.

C. Xylem would encircle the phloem

D. Phloem would encircle the xylem.

Answer: A



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5. 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.

Answer: B



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6. Why the cells of sclerenchyma and tracheids become dead?



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7. Explain sclereids with their types.



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8. What are sieve tubes ? Explain.



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9. Distinguish the anatomy of dicot root from monocot root.



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10. Distinguish the anatomy of dicot stem from monocot stem.



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Additional Question Solved I Choose The Correct Answer

1. The term meristem is coined by

A. Schmidt

B. Clowes

C. Nageli

D. Schleiden

Answer: C



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2. The study of tissues is called as

A. Anatomy

B. Cytology

C. Histology

D. Embryology

Answer: C



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3. Primary growth is the responsibility of
. . . . Meristem.

A. Apical

B. Primary

C. Intercalary

D. Lateral

Answer: A



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4. Identify the mismatch pair :

(i) Nageli - Xylem

(ii) Leptome - Phloem

(iii) Tunica - Corpus theory - Hanstein

(iv) Tracheids - Sanio

A. (i) - only

B. (iii) - only

C. Both (ii) and (iii)

D. None

Answer: B



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5. Who proposed Korper kappe theory ?

A. Schmidt

B. Hanstein

C. Nageli

D. Schuepp

Answer: D



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6. Parenchyma storing calcium carbonate crystals are called

A. Leucoplasts

B. Elaioplasts

C. Idioblasts

D. Chromoplast

Answer: C



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7..... Is seen in all organs of plant.

A. Chlorenchyma

B. Sclerenchyma

C. Parenchyma

D. Collenchyma

Answer: C



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8. Is absent in roots.

A. Chlorenchyma

B. Sclerenchyma

C. Parenchyma

D. Collenchyma

Answer: D



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9. Sclereids are seen in the seed coat of pisum.

A. Macro

B. Osteo

C. Tricho

D. Branchy

Answer: A



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10. Fibres forming mesocarp of coconut is called as

- A. Surface fibres
- B. Soft fibres
- C. Mesocarp fibres
- D. Septate fibres

Answer: C



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11. Is called as Leptome.

A. Parenchyma

B. Phloem

C. Xylem

D. Fibres

Answer: B



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12. Multiple perforation plate is seen in

.

A. Lepidodendron

B. Limnophyton

C. Mangifera

D. Liriodendron

Answer: D



13. Species of gymnosperms have vessels.

A. Cycas

B. Selaginella

C. Gnetim

D. Conifer

Answer: C



14. Only living cells among Xylem elements are

.....

A. Vessels

B. Tracheids

C. Xylem Parenchyma

D. Xylem fibres

Answer: C



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15. In sieve elements, mature sieve plates are blocked by

A. Suberin

B. Lignin

C. Callose

D. Pectin

Answer: C



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16. Companion cells are present only in

..

A. Pteridophytes

B. Angiosperms

C. Gymnosperms

D. Dicots

Answer: B



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17. Rolling & unrolling of leaves due to whether change are controlled by

A. Sensory cells

B. Motor cells

C. Subsidiary cells

D. Trichomes

Answer: B



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18. Sunken stomata is seen in

A. Cycas

B. Nerium

C. Both (a) and (b)

D. None

Answer: A::B::C::D



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19. Root hairs originated from

A. Trichomes

B. Epidermis

C. Pericycle

D. Trichoblasts

Answer: D



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20. Which is NOT a part of intrastelar ground tissue ?

A. Pericycle

B. Medullary ray

C. Pith

D. Cortex

Answer: D



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21. Usually Form the hypodermis.

A. Chlorenchyma

B. Sclerenchyma

C. Collenchyma

D. Parenchyma

Answer: C



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22. In angiosperms, Gives rise to lateral roots.

A. Pith

B. Endodermis

C. Pericycle

D. Trichoblasts

Answer: C



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23. In cucurbitaceae, the vascular bundles are .

.....

A. Bicollateral

B. Collateral closed

C. Concentric

D. Radial

Answer: A



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24. Major function of epiblema is

A. Transport

B. Support

C. Protection

D. Conduction of food

Answer: C



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25. Innermost layer of cortex is

A. Epiblema

B. Endodermis

C. Pericycle

D. Medullary rays

Answer: B



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26. In T.S. of bean root, the xylem is

A. Polyarch

B. Hexarch

C. Tetrarch

D. Wedge shaped

Answer: C



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27. Phellogen arises from , in dicot roots.

- A. Endodermis
- B. Piliferous layer
- C. Pericycle
- D. Periderm

Answer: C



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28. Eustele is seen in stem.

A. Maize

B. Grass

C. Paddy

D. Sunflower

Answer: D



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29. In monocot stem, the xylem vessels are in form of

A. X

B. Y

C. W

D. +

Answer: B



30. Hardbast is composed of

- A. Parenchyma
- B. Collenchyma
- C. Sclerenchyma
- D. Prosenchyma

Answer: C



31. Silica cells seen in epidermis contain

...

A. Magnesium

B. Calcium

C. Silica

D. Sand

Answer: C



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32. Guttation occurs through

A. Stomata

B. Lenticles

C. Cuticle

D. Hydathodes

Answer: D



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33. Kranz sheath in granes perform
photosynthesis.

A. C_3

B. C_4

C. C_2

D. C_{12}

Answer: B



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34. Halophiles survive in
Environment.

A. Dry

B. Aquatic

C. Saline

D. Cold

Answer: C



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35. Who coined the term Hadrome ?

A. Hanstein

B. Nageli

C. Hofmeister

D. Haberlandt

Answer: D



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36. Match the following :

(a)	Dermatogen	(i)	Cortex
(b)	Periblem	(ii)	Root cap
(c)	Plerome	(iii)	Stele
(d)	Calyptragen	(iv)	Epidermis

A. a - iii, b - ii, c - iv, d - i

B. a - iv, b - i, c- iii, d -ii

C. a -i, b - iii, c - ii, d - iv

D. a - iv, b - ii, c - i, d - iii

Answer: B



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Additional Question Solved li Very Short Answer Type Questions

1. How primary meristem differs from secondary meristem ?



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2. What are simple tissues ? Mention its types.



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3. Define Idioblasts.



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4. Mention few places in plants where collenchyma cells can be observed ?



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5. Classify collenchyma based on cell wall pectinisation.



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6. What are Bone cells ? Give an example.



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7. Fibres are supporting tissues. Justify.



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8. Define Wood fibres.



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9. Explain Bast fibres?



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10. Write a note on surface fibres.



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11. Define Complex tissue & mention its types.



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12. What do you understand by Centrarch Xylem ?



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13. State the Xylem elements.



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14. What is the relation between Haberlandt & complex tissue ?



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15. When do you call the perforation plate in vessels as simple ?



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16. Draw the annular and reticulate types of secondary wall thickening in tracheids.



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17. Where fibre - tracheids can be seen ?



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18. What are axial parenchyma & Ray parenchyma ?



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19. Mention the components of Phloem.



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20. Companion cells are absent in which groups of plants ?



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21. Write a brief note on Bast fibres.



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22. Define the term Syncyte and give examples.



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23. Mention the cell wall chemicals of parenchyma



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24. Name the three types of tissue system as proponed by Sachs.



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25. Mention any two plants having multi seriate epidermis.



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26. What are passage cells ? State its function.



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27. Write a brief note on pericycle.



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28. List out the storage products seen in medulla.



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29. Draw and label the open vascular bundle.



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30. The vascular bundle of monocot stem is said to be closed. Why ?



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31. Define stele.



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32. Where starch sheath is seen ? Why it is called so ?



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33. Define eustele.



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34. What is " bundle cap " or " hard bast"?



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35. Give an account on vascular bundle of dicot stem.



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36. What are medullary rays ?



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37. What is protoxylem lacuna?



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38. Define mesophyll tissue & mention its types.



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39. Mention the functions of palisade & spongy parenchyma.



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40. Where respiratory cavity is located ?



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41. What is border parenchyma ?



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42. What are silica cells ?



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43. Define Kranz Sheath.



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44. What do you mean by Hydathode ?



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45. Guttation - Explain.



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46. Define Halophiles.



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Additional Question Solved Iii Short Answer Type Questions

1. Who proposed Tunica - Corpus theory ? Add a note on it.



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2. Histogen theory of Stem. Explain.



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3. Explain briefly about Korper Kappe theory.



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4. Write a note on Quiescent centre concept.



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5. Enumerate the functions of perenchyma.



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6. How buoyancy is maintained in aquatic plants ?



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7. Compare angular collenchyma with lacunar collenchyma.



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8. Draw and label (a) Branchysclereids, (b) Osteosclereids.



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9. Differentiate between Exarch and Endarch condition.



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10. Compare primary phloem with secondary phloem.



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11. Point out the angiospermic families that do not possess xylem vessels.



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12. Write a short note on Phloem parenchyma.



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13. How are meristems classified based on function .



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14. Give an account on piliferous layer.



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15. What are bulliform cells ? How it helps the plants ?



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16. Draw the stoma with dumb - bell shaped guard cell.



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17. Define Trichoblasts.



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18. What are Prickles ? Mention its benefit to plants.



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19. Distinguish between Extrastelar & Intrastelar tissue.



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20. Define Pith.



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21. Draw & label bicollateral vascular bundle .



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22. What are Casparian strips?



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23. Differentiate between Protoxylem & Metaxylem.



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24. Draw & label the ground plan of T.S of
Dicot root



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25. What is the role of casparian strips in roots
?



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26. State the importance of cambium.



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27. What are dorsiventral leaves ? Give an example.



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28. What are isobilateral leaves ? Give an example.



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29. Compare the characters of palisade parenchyma & spongy paranchyma.



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Additional Question Solved Iv Long Answer Type Questions

1. Enumerate the characters of meristematic tissue.



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2. Classify meristem based on position with a simplified diagram.



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3. Elaborate the different types of economically important fibres.



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4. Mention two differences between meristematic tissue and permanent tissue.



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5. Differentiate sieve cells and sieve tubes.



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6. How tracheids differ from fibres ?



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7. Write the functions of epidermal tissue system.



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8. Draw and label the transverse section of monocot stem.



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9. Draw a labeled diagram of T.S. of Dicot leaf.



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10. Differentiate stomata and hydathodes.



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**Additional Question Solved Higher Order
Thinking Skills Hots**

1. Protoxylem is the first formed Xylem. If the protoxylem is surrounded by phloem what kind of arrangement of xylem would you call it ? Give an example.



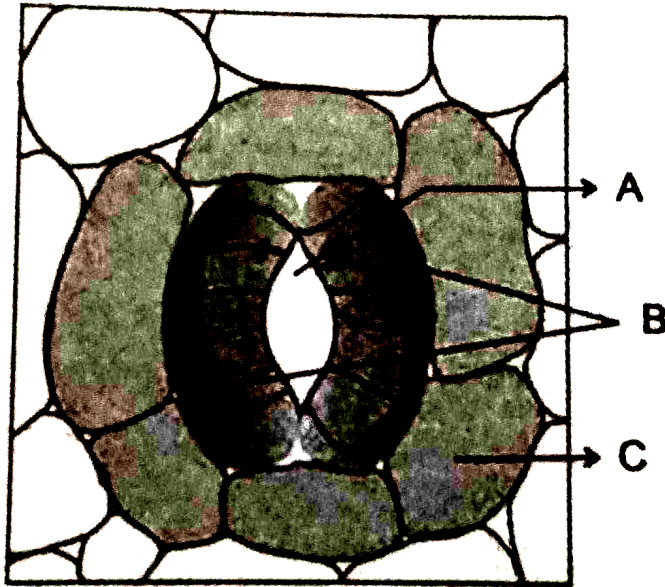
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2. Observe the diagram given below and answer the questions.

(a) Mention the parts A,B,C

(b) Name the part of the plant where we can

see this structure more in number.



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3. In a Biology practical class, your subject teacher has placed a glass slide showing transverse section of dicot stem. State any two

possible reasons to call the slide is a T.S of dicot stem.



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4. While eating pear fruit it is usually seen that some stone like structures get entangled in the teeth, what are these stone like structures called ?



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5. A certain tissue in a green plant somehow get blocked and the leaves wilted. What was the tissue that got blocked ?



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6. The cross - section of a plant material shown the following features on viewing under the microscope.

- (a) Radically arranged vascular bundles.
- (b) Four xylem arms with protoxylem facing

outer side. To which organ should it be arranged.



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7. Write precise function of :

(a) Aerenchyma (b) collenchyma (c) Sieve tube



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