



BIOLOGY

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PLANT ANATOMY AND PLANT PHYSIOLOGY

Textbook Evaluation Choose The Correct Answer

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

A. cortex

B. pith

C. pericycle

D. endodermis

Answer: D



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2. The endarch condition is the characteristic feature of

A. root

B. stem

C. leaves

D. flower

Answer: B



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3. The xylem and phloem arranged side by side on same radius is called _____ .

A. radial

B. amphivasal

C. conjoint

D. None of these

Answer: C



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4. Which is formed during anaerobic respiration

A. Carbohydrate

B. Ethyl alcohol

C. Acetyl CoA

D. Pyruvate

Answer: B



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5. Kreb's cycle takes place in

A. chloroplast

B. mitochondrial matrix

C. stomata

D. inner mitochondrial membrane

Answer: B



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6. Oxygen is produced at what point during photosynthesis?

A. when ATP is converted to ADP

B. when CO_2 is fixed

C. when H_2O is splitted

D. All of these

Answer: D



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Textbook Evaluation Fill In The Blanks

1. Cortex lies between _____ .



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2. Xylem and phloem occurring on the same radius constitute a vascular bundle called _____ .



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3. Glycolysis takes place in.....



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4. The source of O_2 liberated in photosynthesis is _____ .



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5. _____ is ATP factory of the cells.



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Textbook Evaluation State Whether The Statements Are True And False Correct The False Statement

1. Phloem tissue is involved in the transport of water in plant.



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2. The waxy protective covering of a plant is called as cuticle.



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3. In monocot stem cambium is present in between xylem and phloem.



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4. Palisade parenchyma cells occur below upper epidermis in dicot root.



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5. Mesophyll contains chlorophyll.



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6. Anaerobic respiration produces more ATP than aerobic respiration.



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Textbook Evaluation Match The Following

1. Match the following

Column I		Column II	
A	Amphicribal	(i)	<i>Dracaena</i>
B	Cambium	(ii)	Translocation of food
C	Amphivasal	(iii)	Fern
D	Xylem	(iv)	Secondary growth
E	Phloem	(v)	Conduction of water



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Textbook Evaluation Answer In A Sentence

1. What is collateral vascular bundle?



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2. Where does the carbon that is used in photosynthesis come from?



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3. What is the common step in aerobic and anaerobic pathway ?



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4. Name the phenomenon by which carbohydrates are oxidized to release ethyl alcohol.



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Textbook Evaluation Short Answer Questions

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



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2. Write a short note on mesophyll.



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3. Draw and label the structure of oxysomes.



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4. Name the three basic tissue system in flowering plants.





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5. What is photosynthesis and where in a cell does it occur?



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6. What is respiratory quotient?



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7. Why should the light dependent reaction occur before the light independent reaction?



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8. Write the reaction for photosynthesis.



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Textbook Evaluation Long Answer Questions

1. Differentiate the following

Monocot root and Dicot root



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2. Distinguish between Aerobic and Anerobic respiration .



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3. Describe and name three stages of cellular respiration that aerobic organisms use to obtain energy from glucose.



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4. How does the light dependent reaction differ from the light independent reaction? What are the end product and reactants in each? Where does each reaction occur within the chloroplast?





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Textbook Evaluation Higher Order Skills Hots

1. The reactions of photosynthesis make up a biochemical pathway.

What are the reactants and products for both light and dark reactions.



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2. The reactions of photosynthesis make up a biochemical pathway.

Explain how the biochemical pathway of photosynthesis recycles many of its own reactions and identify the recycled reactants.



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3. Where do the light dependent reaction and the Calvin cycle occur in the chloroplast?



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Other Important Questions Answer Choose The Correct Answer

1. Root hairs originated from

A. trichoblast

B. endodermis

C. hypodermis

D. pericycle

Answer: A



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2. The passage cells are found in endodermis of:

- A. dicot stem
- B. monocot stem
- C. dicot root
- D. dicot leaf

Answer: C



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3. _____ is the innermost layer of cortex.

A. epidermis

B. hypodermis

C. endodermis

D. pericycle

Answer: C



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4. The vascular bundle are skull shaped in:

A. dicot root

B. monocot root

C. dicot stem

D. monocot stem

Answer: D



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5. The vascular bundle with protoxylem facing centre of the stem is:

A. exarch

B. endarch

C. tetrarch

D. polyarch

Answer: B



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6. The protoxylem lacuna is present in the vascular bundles of:

- A. dicot root
- B. monocot root
- C. dicot stem
- D. monocot stem

Answer: D



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7. The Vascular bundle of a dicot leaf is described as _____

- A. collateral and open
- B. collateral and closed
- C. bicollateral and open
- D. collateral and exarch

Answer: B



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8. Photosynthesis takes place inside the _____ .

A. mitochondria

B. peroxisomes

C. chloroplast

D. ribosomes

Answer: C



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9. The dark reaction of photosynthesis were discovered by:

A. Embden and Meyer

B. Melvin and Calvin

C. Kreb

D. Parnas

Answer: B



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10. _____ is the main organ of cell respiration.

A. mitochondria

B. chloroplast

C. plastids

D. cell wall

Answer: A



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11. The hypodermis of monocot stem consists of:

A. Collenchyma

B. Sclerenchyma

C. Angular collenchyma

D. Parenchyma

Answer: B



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12. The layer is morphologically homologous to the endodermis found in the root which is:

A. periderm

B. epidermis

C. starch sheath

D. mesophyll tissue

Answer: C



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13. Pericyclce is absent in :

A. dicot stem

B. monocot root

C. dicot root

D. monocot stem

Answer: D



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14. is not a characteristic feature of spongy parenchyma.

A. Gaseous exchange

B. Photosynthesis

C. Irregular

D. closely arranged

Answer: D



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15. Which of the following is not applicable of dicot stem?

A. wedge shaped

B. endarch

C. collateral

D. closed

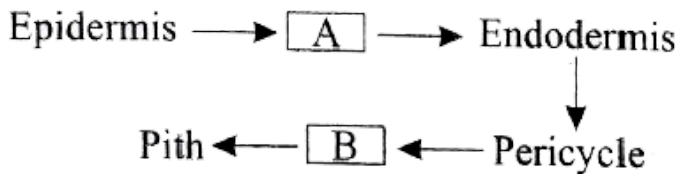
Answer: D



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Other Important Questions Answer Application Based Question

1. In the given flow chart different layer of monocot root is shown. What is A and B?



A. A - Hypodermis, B - Vascular bundle

B. A - Cortex, B - Vascular bundle

C. A - Cortex, B - Xylem

D. A - Hypodermis, B - Xylem

Answer: B



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2. Casparian strips are characteristic feature of A endodermis and it is made up of B. What is A and B respectively?

A. shoot, suberin

B. root, lignin

C. root suberin

D. root and shoot, suberin

Answer: C



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3. Which of the following is present in monocot leaves?

(A) Bulliform cell

(B) Leaf base

(C) Bundle sheath

(D) Resin gland (E) Water cavity

A. A,B,C,E

B. A,B,D,E

C. A,B,E

D. A,B,C

Answer: D



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4. A vascular bundle in which phloem is on both the sides of the xylem separated from it by strips of cambium is said to be:

A. Collateral and open

B. Bicollateral open

C. Concentric

D. Bicollateral closed

Answer: B



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5. Presence of cuticle is a common character of

:

(A) Monocot stem (B) Dicot stem

(C) Monocot root

(D) Dicot root

(E) Monocot leaf

(F) Dicot leaf.

A. A,B,E,F

B. B,F

C. A,B,C,D,E,F

D. A,E,F

Answer: A



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Other Important Questions Answer Fill In The Blanks

1. _____ is known as Father of plant anatomy.



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2. _____ are the group of cells that are similar or dissimilar in structure and origin, but perform similar function.



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3. Based on the ability to divide, tissues are classified into And..... tissue.



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4. Is the outermost layer.



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5. The main function of vascular tissue system are transport of and



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6. Epidermis protects the Tissue.



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7. , , and Forms the ground tissue system.



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8. Epiblema is also known as Or



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9. helps in the movement of water and dissolved salts from cortex into xylem.



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10. The tissue present between xylem and phloem is called



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11. All tissues inner to endodermis constitute

----- .



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12. The tissue present between the upper and lower epidermis is called



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13. Reaction centres and the accessory pigments together are called_____ .



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14. Light reaction takes place in

Membrane of the chloroplast.



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15. Kreb's cycle is also known as



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16. Glycolysis takes place in Of the cell.



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17. Krebs cycle occurs in matrix.



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18. The gas evolved during photosynthesis is

.....



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19. The first step in aerobic respiration is



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20. Energy currency of the cell is



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21. Major function of epiblema is



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Other Important Questions Answer Match The Following

1. Match the following

Column - I		Column - II	
A	NADP	(i)	Anaerobic
B	Calvin cycle	(ii)	Monocot
C	Ethanol	(iii)	Absence of light
D	Ground tissue	(iv)	Nicotin amide Adenine Dinucleotide phosphate
E	Isobilateral leaf	(v)	Collenchyma



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Other Important Questions Answer Answer In Sentence

1. Where does the break down of pyruvate to give carbondioxide, water and energy takes

place?



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2. Name the factors which affect photosynthesis.



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3. Name the currency in the living organism.
When and where it is produced?



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4. what is Cortex?



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5. What is Pericycle?



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6. Define conjunctive tissue.



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7. Where are passage cell located and write its function?



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8. What is protoxylem lacuna?



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9. Define Krebs's cycle.



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10. Why Mitochondira is called as 'the power house of a cell'?



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Other Important Questions Answer Short Answer Questions

1. Name the three types of plastids.





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2. List out the functions of chloroplast.



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3. What are concentric bundles? Explain its types.



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4. What are photosynthetic pigment?



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5. Differentiate between Palisade parenchyma and spongy parenchyma.



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6. Differentiate between Monocot leaf and Dicot leaf.



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7. Define stele.



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8. Where respiratory cavity is located ?



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9. What are isobilateral leaves ? Give an example.



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10. What are dorsiventral leaves ? Give an example.



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11. Define tetrarch xylem.



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12. What are generally called as accessory pigments?



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13. Write any three significance of photosynthesis.



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14. What are the functions of epidermal tissue system?



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15. Differentiate between Monocot and Dicot stem.



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Other Important Questions Answer Long Answer Questions

1. Explain Epidermal tissue system.



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2. Explain the types of vascular bundles.



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3. Explain the primary structure of monocot root.



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4. Draw the structure of Dicot root.



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5. Describe the Primary structure of T.S of Monocot stem .



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6. Write a short note on structure of chloroplast.



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7. Explain the primary structure of T.S Dicot stem.



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8. Describe the structure of T.S dicot leaf.



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Other Important Questions Answer Higher Order Thinking Skills Hot

1. The cells of endodermis show band like thickening on their radial and inner tangential walls called casparian strips. Why?



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2. Protophloem is the first formed phloem. If the protophloem surrounds by xylem, what kind of arrangement of phloem would you call it. Give example .



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

(a) Radially arranged Vascular bundles

(b) Xylem is exarch and polyarch

(c) Metaxylem is polygonal in shape.

Identify the slide.



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