



BIOLOGY

BOOKS - TRUEMAN'S BIOLOGY (ENGLISH)

Plant Morphology & Reproduction

Assertion And Reason

1. [A] : Leaf base is the point of attachment of leaf to stem .

[R] : Entire leaf axis is called anisophylly .

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



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2. [A] : Above ground stolons produce new plants where nodes touch the ground .

[R] : Rhizomes survive the winter and contribute to asexual reproduction .

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



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3. [A] : Bulb does not function in vegetative reproduction .

[R] : It is a modified structure , either a bulbil or root .

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



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4. [A] : The function of phyllotaxy is to display leaves properly .

[R] : It is for getting maximum light by all leaves so that chance of shading is reduced .

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



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5. [A] : Stilt roots are common in sugarcane,

[R] : In sugarcane, these roots are stout which grow straight from lower internodes.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



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6. [A] : In creepers, leaves are produced upon the nodes.

[R] : Adventitious roots arise from the nodes.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



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7. [A] : Thorns may bear nodes and internodes in some plants.

[R] : Thorns are modified stems as they arise in the axil of a leaf or at the apex a branch.

- A. If both A and R are true and R is the correct explanation of A
- B. If both A and R are true but R is not the correct explanation of A
- C. If A is true and R is false
- D. If both A and R are false

Answer:



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8. [A] : The switchover from vegetative to reproductive phase is now possible to shorten or prolong by altering the light conditions.

[R] : Plant morphologists regard flower as a modified shoot of determined growth with highly condensed internodes.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



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9. [A] : Insectivorous plants grow in carbohydrate deficient soil.

[R] : Insectivorous plants grow in nitrogen rich soil.

- A. If both A and R are true and R is the correct explanation of A
- B. If both A and R are true but R is not the correct explanation of A
- C. If A is true and R is false
- D. If both A and R are false

Answer:



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10. [A] : Synandrous condition is found in curcurbits.

[R] : The male flower of curcurbits, generally, contains five stamens which are laterally fused (anthers and filaments both).

A. (a) If both A and R are true and R is the correct explanation of A

B. (b) If both A and R are true but R is not the correct explanation of A

C. (c) If A is true and R is false

D. (d) If both A and R are false

Answer:



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11. [A] : Thorns may bear nodes and internodes in some plants.

[R] : Thorns are modified stems as they arise in the axil of a leaf or at the apex a branch.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



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12. [A] : For dispersal by wind fruits and seeds should be light.

[R] : So that their buoyancy may help them to fly upto a long distance.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



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13. Assertion. Dispersal of fruits in *Xanthium* takes place by wind and water.

Reason. Fruits are light and floating.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



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14. [A] : For dispersal by wind fruits and seeds should be light.

[R] : So that their buoyancy may help them to fly upto a long distance.

- A. If both A and R are true and R is the correct explanation of A
- B. If both A and R are true but R is not the correct explanation of A
- C. If A is true and R is false
- D. If both A and R are false

Answer:



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15. [A] : Xenogamy is defined as the transference of pollen grain to stigma of same flower.

[R] : In xenogamy, the pollen grain of a flower are transferred to stigma of a different flower of a different plant of different species.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



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16. [A] : Anemophilous plants have to produce enormous quantities of pollen.

[R] : Because during the transit of pollen through a wind, a considerable amount of pollen is lost.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



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17. [A] : Bees are colour-blind for red and are fond of yellow, violet and purple.

[R] : Normally only one pollen tube develops from a pollen grain.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



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18. Assertion. The time involved between pollination and fertilization varies from species to species

Reason. All the pollen that reach the stigma succeed in affecting fertilization .

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



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19. [A] : The presence of endothelium around the embryo sac and its cytological features suggest that it may be functionally similar to

the anther tapetum .

[R] : For this reason endothelium is also called integumentary tissue .

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:





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20. [A] : Synergids play an important role in directing the pollen tube growth .

[R] : Because synergids secrete some chemotropically active substance .

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



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21. Assertion. In apomixis , plants of new genetic sequence are produced.

Reason. In apomixis , two individuals of same genetic sequence meet .

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



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22. [A] : Nucleus of pollen grain divides meiotically and form a pollen tube and a generative nucleus .

[R] : Nucleus of pollen grain divides meiotically to form pollen tube and generative nucleus.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer:



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23. [A]: Incompatibility is a gene physiological process.

[R]: Moderately high temperatures are also known to reduce self incompatibility reaction in certain plants.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: B



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24. [A]: The pollen sterility has been attributed to the malfunctioning of tapetum.

[R]: Premature degeneration of the tapetum deprives the developing spores of its nutrition.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: A



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25. [A]: The three cells of the egg apparatus are arranged in a triangular fashion.

[R]: The degenerating synergid forms the seat for pollen tube discharge in the embryo sac

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: D



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26. [A]: Pollen grains from male parent are mostly transferred to the stigma in the female parent by some external agency. [R]: This is because the male flowers or male organs have no internal device to reach the female organs in another flower

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: A



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27. [A]: The two sperms cells in a pollen tube often change their shape.

[R]: The sperms are released in the synergid as intact cells but only their nuclei migrate

- A. If both A and R are true and R is the correct explanation of A
- B. If both A and R are true but R is not the correct explanation of A
- C. If A is true and R is false
- D. If both A and R are false

Answer: B



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28. [A] : Synandrous condition is found in curcubits.

[R] : The male flower of curcubits, generally, contains five stamens which are laterally fused (anthers and filaments both).

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: A



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29. [A]: In certain plants the stem that twines around the support is hard and woody, such plants are called psammophytes.

[R]: The hygroscopic roots have a spongy tissue called exodermis

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: D



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30. [A]: Leaf in *Daucus carota* is decompound.

[R]: Saprophytic and parasitic modes of nutrition are considered as advanced feature

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: B



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31. [A]: The colour of flowers in Bougainvillia is due to the coloured bracts.

[R]: The flowers of Bougainvillia are largest among the plant kingdom.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: A



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32. [A]: The endosperm contains the triploid number of chromosomes.

[R]: The endosperm is formed as a result of

fusion of two polar nuclei and one of the male nuclei

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: A



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33. [A]: Spore mother cells within the anther pollen sacs form four haploid pollen grains.

[R]: Spore mother cells divide meiotically to form four haploid pollen grains.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: B



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34. [A]: One diploid embryo sac mother cell develops within the nucellus of the ovule.

[R]: Embryo sac mother cell divides meiotically and one of the cells produced becomes the haploid embryo sac.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: B



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35. [A]: Triple fusion results in vegetative fertilization of angiosperms.

[R]: It combines one male gamete with two synergids.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: C



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36. [A]: Pollination is essential for fertilization.

[R]: Abscission or drooping of ovary is prevented by pollination.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: B



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37. [A]: The biennial plants live for two years.

[R]: They flower in both years.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: C



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38. Assertion (A): Many visitors to the hills suffer from skin and respiratory allergy problems.

Reason (R): Conifer trees produce a large quantity of wind-borne pollen grains.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: B



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39. [A]: Endosperm is triploid in angiosperms.

[R]: In gymnosperms, it is haploid.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: B



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40. Assertion. A pollen grain of angiosperm is considered as the male gametophyte .

Reason. All the nuclei of the pollen grain produce male gametes.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: C



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41. Assertion. In apomixis , plants of new genetic sequence are produced.

Reason. In apomixis , two individuals of same genetic sequence meet .

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: D



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42. Assertion : In collateral vascular bundles phloem is situated toward inner side.

Reason : In monocot stem, cambium is present

.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: D



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43. [A]: The secondary phloem constitutes a less prominent part of the tree trunk than the secondary xylem

[R] : The amount of Phloem produced by the cambium is smaller than that of secondary

- A. If both A and R are true and R is the correct explanation of A
- B. If both A and R are true but R is not the correct explanation of A
- C. If A is true and R is false
- D. If both A and R are false

Answer: A



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44. [A] : The narrow band of meristematic tissue present between phloem and xylem is called cambium

[R] : In dicotyledonous stem a part of the procambium remains meristematic which is called cambium

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: A



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45. [A]: The inner most distinct layer of the cortex is called endodermis.

(R): The cells of endodermis are nonliving and bear casparian strips

- A. If both A and R are true and R is the correct explanation of A
- B. If both A and R are true but R is not the correct explanation of A
- C. If A is true and R is false
- D. If both A and R are false

Answer: C



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46. [A]: Gramineos type of stomata are found in Gramineae and Cyperaceae.

[R]: Gramineous stoma1a are dumbbell shape

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: A



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47. [A]: Intercellular spaces are found in mesothematic cells

(R): The mesothematic cells are always rounded.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: D



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48. [A]: Monocot stem has collateral open vascular bundle.

[R]: Open vascular bundle is without cambium.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: D



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49. [A]: Root system in hydrophytes is poorly de-veloped.

[R]: The condition helps hydrophytes to avoid maximum water absorption

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: A



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50. [A]: Aerenchyma is a characteristic of lithophyte.

[R]: It is a specialised tissue for buoyancy in lithophytes

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: D



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51. [A]: Protostele is most simple primitive type of stele.

[R]: According to Histogen theory there are

three distinct apical layers which give rise to distinct tissue system of the body.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: B



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52. [A]: Rubber is obtained from the latex of *Hevea brasiliensis*.

[R]: Because secretory canals are abundantly found in the secondary phloem

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: A



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53. [A]: No fibres are found in plants.

[R]: Xylem vessels are absent in an- giosperms.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: D



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54. [A]: Sclerenchyma cells are rarely found in plants.

[R]: Sclerocyma cells are dead but have protoplasm

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: D



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55. [A]: Hanstein's dermatogen is not equivalent to Haberlandt's Protoderm.

[R]: Histogen theory has been proposed by Schmidt

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: C



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56. [A]: Trichomes may occur on all parts of a plant.

[R]: Trichomes either persist throughout the life of an organ or are ephemeral

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: B



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57. [A]: The vascular cambium is absent in monocots.

[R]: The monocots never show secondary growth

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: A



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58. [A]: In the hydrophytes the Xylem is not differentiated into different types of cells.

[R]: Xylem provides support and helps in the conduction of water which is not very important in hydrophytes

A. (a) If both A and R are true and R is the correct explanation of A

B. (b) If both A and R are true but R is not the correct explanation of A

C. (c) If A is true and R is false

D. (d) If both A and R are false

Answer: A



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59. [A]: Dicot stem shows secondary growth.

[R]: Tissue system is not differentiated in dicot stem.

- A. If both A and R are true and R is the correct explanation of A
- B. If both A and R are true but R is not the correct explanation of A
- C. If A is true and R is false
- D. If both A and R are false

Answer: C



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

Reason: The cambial activity continues uninterrupted.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: A



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61. [A]: The inner most distinct layer of the cortex is called endodermis.

[R]: The cells of endodermis are nonliving and bear casparian strips

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: C



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62. [A]: Sieve tube members have abundant cytoplasm but there is no nucleus.

[R]: The nucleus disintegrates during their development

A. (a) If both A and R are true and R is the correct explanation of A

B. (b) If both A and R are true but R is not the correct explanation of A

C. (c) If A is true and R is false

D. (d) If both A and R are false

Answer: A



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63. Assertion : In collateral vascular bundles phloem is situated toward inner side.

Reason : In monocot stem, cambium is present

.

A. (a) If both A and R are true and R is the correct explanation of A

B. (b) If both A and R are true but R is not the correct explanation of A

C. (c) If A is true and R is false

D. (d) If both A and R are false

Answer: D



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64. [A]: Xylem translocates water and dissolved mineral salts from the roots to the rest of the plant.

[R]: Phloem translocates dissolved organic and inorganic solutes

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: B



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