

NEET ANATOMY OF FLOWERING PLANTS — SECONDARY GROWTH: VASCULAR CAMBIUM, WOOD, CORK CAMBIUM (OLD SYLLABUS) — PYQS

Max. Marks: 104

Questions: 26

Section A (MCQ) — 26 questions

Q.1 Given below are two statements : One is labelled as **Assertion (A)** and the other is labelled as **Reason (R)** :

Assertion (A): Late wood has fewer xylary elements with narrow vessels.

Reason (R): Cambium is less active in winters.

In the light of the above statements, choose the correct answer from the options given below :

[NEET (UG) 2023]

- (1) Both A and R are true but R is NOT the correct explanation of A
- (2) A is true but R is false
- (3) A is false but R is true
- (4) Both A and R are true and R is the correct explanation of A

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Q.2 Identify the correct statements:
Choose the correct answer from the options given below:

- A. Lenticels are the lens-shaped openings permitting the exchange of gases.
- B. Bark formed early in the season is called hard bark.
- C. Bark is a technical term that refers to all tissues exterior to vascular cambium.
- D. Bark refers to periderm and secondary phloem.
- E. Phellogen is single-layered in thickness.

[NEET (UG) 2023]

- (1) A and D only
- (2) A, B and D only
- (3) B and C only
- (4) B, C and E only

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Q.3 In old trees the greater part of secondary xylem is dark brown and resistant to insect attack due to :

- A. secretion of secondary metabolites and their deposition in the lumen of vessels.
- B. deposition of organic compounds like tannins and resins in the central layers of stem.
- C. deposition of suberin and aromatic substances in the outer layer of stem.

D. deposition of tannins, gum, resin and aromatic substances in the peripheral layers of stem.

E. presence of parenchyma cells, functionally active xylem elements and essential oils.

Choose the correct answer from the options given below :

[NEET (UG) 2022]

- (1) A and B only
- (2) C and D only
- (3) D and E only
- (4) B and D only

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Q.4 The anatomy of springwood shows some peculiar features. Identify the correct set of statements about springwood.

- A. It is also called as the earlywood
- B. In spring season cambium produces xylem elements with narrow vessels
- C. It is lighter in colour
- D. The springwood along with autumn wood shows alternate concentric rings forming annual rings
- E. It has lower density

Choose the correct answer from the options given below:

[NEET (UG) 2022]

- (1) A, B, D and E only
- (2) A, C, D and E only
- (3) A, B and D only
- (4) C, D and E only

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Q.5 Interfascicular cambium is present between

[NEET (UG) 2022 (Phase 2)]

- (1) Secondary xylem and secondary phloem
- (2) Primary xylem and primary phloem
- (3) Pericycle and endodermis
- (4) Two vascular bundles

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Q.6 Match List-I with List-II.

List-I		List-II	
a.	Lenticels	i.	Phellogen
b.	Cork cambium	ii.	Suberin deposition
c.	Secondary cortex	iii.	Exchange of gases
d.	Cork	iv.	Phelloderm

Choose the correct answer from the options given below.

[NEET (UG) 2021]

- (1) (a)-(iv), (b)-(ii), (c)-(i), (d)-(iii)
- (2) (a)-(iv), (b)-(i), (c)-(iii), (d)-(ii)
- (3) (a)-(iii), (b)-(i), (c)-(iv), (d)-(ii)
- (4) (a)-(ii), (b)-(iii), (c)-(iv), (d)-(i)

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Q.7 Select the correct pair. [NEET (UG) 2021]

- (1) Loose parenchyma cells rupturing the epidermis and forming a lens shaped opening in bark - Spongy parenchyma
- (2) Large colorless empty cells in the epidermis of grass leaves - Subsidiary cells
- (3) In dicot leaves, vascular bundles are surrounded by large thick-walled cells - Conjunctive tissue
- (4) Cells of medullary rays that form part of cambial ring - Interfascicular cambium

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Q.8 Identify the incorrect statement. [NEET (UG) 2020]

- (1) Sapwood is involved in conduction of water and minerals from root to leaf
- (2) Sapwood is the innermost secondary xylem and is lighter in colour
- (3) Due to deposition of tannins, resins, oils etc., heart wood is dark in colour
- (4) Heart wood does not conduct water but gives mechanical support

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Q.9 Which of the statements given below is not true about formation of Annual Rings in trees?

[NEET (UG) 2019]

- (1) Activity of cambium depends upon variation in climate.
- (2) Annual rings are not prominent in trees of temperate region.
- (3) Annual ring is a combination of spring wood and autumn wood produced in a year.
- (4) Differential activity of cambium causes light and dark bands of tissue – early and late wood respectively

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Q.10 Secondary xylem and phloem in dicot stem are produced by

[NEET 2018]

- (1) vascular cambium
- (2) axillary meristems
- (3) apical meristems
- (4) phellogen

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Q.11 Plants having little or no secondary growth are

[NEET 2018]

- (1) deciduous angiosperms
- (2) grasses
- (3) cycads
- (4) conifers

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Q.12 The vascular cambium normally gives rise to :

[NEET 2017]

- (1) Primary phloem
- (2) Secondary xylem
- (3) Periderm
- (4) Phelloderm

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Q.13 Which of the following is made up of dead cells ?

[NEET 2017]

- (1) Collenchyma
- (2) Xylem parenchyma
- (3) Phellem
- (4) Phloem

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Q.14 Identify the wrong statement in context of heartwood :

[NEET 2017]

- (1) It is highly durable.
- (2) It comprises dead elements with highly lignified walls
- (3) It conducts water and minerals efficiently
- (4) Organic compounds are deposited in it

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Q.15 The balloon-shaped structures called tyloses

[NEET 2016 (Phase 2)]

- (1) are extensions of xylem parenchyma cells into vessels
- (2) originate in the lumen of vessels
- (3) are linked to the ascent of sap through xylem vessels
- (4) characterize the sapwood

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Q.16 Read the different components from (1) to (4) in the list given below and tell the correct order of the components with reference to their arrangement from outer side to inner side in a woody dicot stem :

- (1) Secondary cortex
- (2) Wood
- (3) Secondary phloem
- (4) Phellem

The correct order is :

[AIPMT 2015]

- (1) (3), (4), (2), (1) (2) (4), (1), (3), (2)
 (3) (4), (3), (1), (2) (4) (1), (2), (4), (3)

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Q.17 Lenticels are involved in [NEET 2013]

- (1) Food transport (2) Photosynthesis
 (3) Transpiration (4) Gaseous exchange

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Q.18 Age of a tree can be estimated by : [NEET 2013]

- (1) Diameter of its heartwood
 (2) Number of annual rings
 (3) Its height and girth
 (4) Biomass

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Q.19 Interfascicular cambium develops from the cells of :

[NEET 2013]

- (1) Endodermis (2) Pericycle
 (3) Medullary rays (4) Xylem parenchyma

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Q.20 The common bottle cork is a product of

[AIPMT 2012 (Prelims)]

- (1) Phellogen (2) Xylem
 (3) Vascular Cambium (4) Dermatogen

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Q.21 The cork cambium, cork and secondary cortex are collectively called :

[AIPMT 2011 (Prelims)]

- (1) Periderm (2) Phellem
 (3) Phellogen (4) Phelloderm

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Q.22 Heartwood differs from sapwood in –

[AIPMT 2010 (Prelims)]

- (1) Having dead and non-conducting elements
 (2) Being susceptible to pests and pathogens
 (3) Presence of rays and fibres
 (4) Absence of vessels and parenchyma

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Q.23 For a critical study of secondary growth in plants, which one of the following pairs is suitable?

[AIPMT 2007]

- (1) Deodar and fern
 (2) Wheat and maiden hair fern
 (3) Sugarcane and sunflower
 (4) Teak and pine

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Q.24 In a woody dicotyledonous tree, which of the following parts will mainly consist of primary tissues ? [AIPMT 2005]

- (1) Shoot tips and root tips
 (2) Flowers, fruit and leaves
 (3) Stem and root
 (4) All parts

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Q.25 Diffuse porous wood is characteristic of those plants which are growing in : [AIPMT 2003]

- (1) Tropics (2) Temperate climate
 (3) Alpine region (4) Cold winter regions

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Q.26 Main function of lenticel is [AIPMT 2002]

- (1) transpiration (2) guttation
 (3) gaseous exchange (4) bleeding.

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ANSWER KEY

Ques.	1	2	3	4	5	6	7	8	9	10	11
Ans.	4	1	1	2	4	3	4	2	2	1	2
Ques.	12	13	14	15	16	17	18	19	20	21	22
Ans.	2	3	3	1	2	4	2	3	1	1	1
Ques.	23	24	25	26							
Ans.	4	2	1	3							