

BOTANY TEST
ANATOMY OF FLOWERING PLANTS

Time: 1hour

Marks: 200 Marks

1. Sclereids are commonly found in

- a) Young stems and petioles of leaves
- b) Fruit walls of nuts
- c) Roots
- d) Fleshy stems

2. What is the function of vessels in flowering plants?

- a) Transport of food
- b) To get rid of excess of water
- c) Photosynthesis
- d) Transport of water and mineral

3. The central lumens are obliterated in

- a) Xylem fiber
- b) Phloem parenchyma
- c) Xylem parenchyma
- d) Sieve tubes

4. Which of the following is absent in most of the monocotyledons?

- a) Phloem parenchyma
- b) Tracheids
- c) Vessels
- d) Xylem parenchyma

5. The specialized epidermal cells present in the vicinity of guard cells are called

- a) Bulliform cells
- b) Companion cells
- c) Subsidiary cells
- d) Endodermal cells

6. Lateral roots arise from

- a) Endodermis
- b) Pericycle
- c) Conjunctive tissues
- d) Cambium ring

7. Polyarch xylem bundles are found in

- a) Monocot root
- b) Dicot root
- c) Monocot stem
- d) Dicot stem

8. Vascular bundles surrounded by a sclerenchymatous bundle sheath is the feature of

- a) Dicot root
- b) Monocot root
- c) Dicot stem
- d) Monocot stem

9. The central most portion of stem of dicotyledonous plants is occupied by

- a) Vascular bundles
- b) Pericycle
- c) Pith
- d) Cortex

10. Which of the following is not true for the vascular bundles of monocotyledonous stems?

- a) scattered in the ground tissues
- b) possess water containing cavities
- c) ring arrangement
- d) conjoint and closed.

11) The stomata in an isobilateral leaf

- a) are present only on the adaxial epidermis
- b) are present only on the abaxial epidermis
- c) are absent on both the surface of the epidermis
- d) are present on both the surface of the epidermis.

12. The intrafascicular cambium

- a) is a simple permanent tissue
- b) is a meristematic tissue
- c) is a complex permanent tissue
- d) is a secondary meristem.

13. In a dicot stem, the interfascicular cambium strip arises

- a) between xylem and phloem
- b) from medullary rays
- c) from pith
- d) from pericycle

14. The wood is, in fact a

- a) primary xylem
- b) primary phloem
- c) secondary xylem
- d) secondary phloem.

15. Growth rings are generally well marked in Tress growing in

- a) Mumbai
- b) Chennai
- c) Shimla
- d) Kolkata

16. Which of the following is the function of heart wood?

- a) mechanical support
- b) radial conduction of water and minerals
- c) lateral conduction of food
- d) minimize water loss in water stress.

17. Besides phellem, phellogen, root periderm comprises of

- a) Secondary cortex
- b) Phelloderm
- c) Bark
- d) More than one option is correct

18. Select correct features with respect to trichomes in short system.

- (a) usually unicelled
- (b) branched or unbranched
- (c) may be secretory
- (d) soft or stiff
- (e) helps against transpiration

- a) a,b,d and e
- b) all except c and d
- c) all except A
- d) a, c and e

19. Pericycle of the roots is never sclenchymatous because it

- a) Does not act as a mechanical tissue in roots
- b) It is the place of origin of root branches
- c) Gives rise to root hairs
- d) Gives rise to root hairs (when the root is young) and root branches (at maturity)

20. Seat of origin of lateral root and formation of cork cambium are features related to

- a) Endodermis b) Pericycle c) Hypodermis d) Pith rays

21. Which is not true for monocot stem?

- a) Sclerenchymatous hypodermis
b) Presence of water canals in pith
c) Conjoined collateral closed vascular bundles
d) Presence of bundle sheath.

22. Vascular bundles are conjoint collateral, endarch and lack cambium between xylem and phloem in all but not in

- a) Maize b) Barley c) Wheat d) Sun flower

23. Select a set having correct match dicot stem and monocot stem

- a) Sclerenchymatous hypodermis, Collenchymatous hypodermis
b) Parenchymatous pericycle, sclerenchymatous pericycle
c) Epidermis with trichome, water containing cavities in vascular bundles
d) Oval bundles, wedge shaped bundles.

24. Vascular cambium is a meristematic layer that cuts off

- a) Primary xylem and primary phloem
b) Xylem vessels and xylem tracheids
c) Primary xylem and secondary xylem
d) Secondary xylem, secondary phloem and medullary rays.

25. Derivatives of the secondary meristem in the stem region are

- a) Phellum and phelloderm
b) Laburnum and primary phloem
c) Duramen and laburnum
d) Primary xylem and secondary phloem

26. What is the position of oldest secondary phloem

- a) Just outside the pericycle c) Just below the pericycle
b) Just outside the vascular cambium d) Below the vascular cambium

27. The youngest layer of secondary xylem in the wood of dicot plant is located

- a) Between pith and primary xylem c) Just inside vascular cambium
b) Just outside vascular cambium d) Just inside cork cambium

28.A. Heart wood is durable, dark and central in position.

B. Tyloses are balloon like structures of xylem parenchyma in vessel lumen.

C. Late wood is formed during spring season.

- a) all are correct b) only A is correct c) only B is correct d) only C is correct

29. Secondary growth in extra stellar region is due to the activity of

- a) Interfascicular cambium
- b) Intra fascicular cambium
- c) Cork cambium
- d) Intercalary meristem

30. All given tissues are formed as a result of redifferentiation process, except

- a) Phellem
- b) Phelloderm
- c) Secondary xylem
- d) Inter fascicular cambium

31. Seasonal activity of vascular cambium is influenced by many factors, except.

- a) Geographical location of plants
- b) Relative humidity and temperature
- c) Photoperiod and water supply
- d) Leaf orientation.

32. Select wrong statement regarding secondary phloem?

- a) Arise due to activity of procambium
- b) Occurs during secondary growth
- c) No distinction between proto phloem and meta phloem
- d) Secondary permanent tissues.

33. Vascular bundles in dicot leaves are

- a) Scattered, conjoint, collateral open
- b) Scattered, conjoint, collateral closed
- c) Ring, conjoint, collateral open
- d) Ring, conjoint, collateral closed

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

- a) Cambium sandwiched between phloem and xylem along the radius
- b) Open vascular bundles
- c) Scattered vascular bundles
- d) Vasculature without cambium

35. The common bottle cork is a product of

- a) Xylem
- b) Vascular cambium
- c) Dermatogen
- d) Phellogen

36. Collenchyma differs from parenchyma in

- a) Possessing thick cell wall
- b) Lacking protoplasm
- c) Containing chloroplast usually
- d) Being meristematic

37. Stomata are the component of

- a) Epidermal tissue system
- b) Ground tissue system
- c) Conducting tissue system
- d) Vascular tissue system

38. In which of the following characters a monocot root differs from a dicot root?

- a) Radial vascular bundle
- b) Large pith
- c) Conjunctive tissue between xylem and phloem
- d) Single layered endodermis

39. Vascular cambium of dicot root is purely secondary in origin and arise from

- a) Cells of conjunctive parenchyma just below phloem
- b) Cells of pericycle just outside protoxylem
- c) Cells of parenchyma between xylem and phloem
- d) More than one option is correct.

40. Function of companion cell is

- a) Loading of starch into sieve element by passive transport
- b) Loading of sucrose into sieve elements
- c) Providing energy to sieve element for active transport
- d) Providing water to phloem.

41. The epidermis is a dorsal ventral leaf

A) Covers both adaxial and abaxial surfaces

B) It is not covered by cuticle

Which of the above statements are correct?

- a) A and C
- b) B and D

C) Bears more stomata on the upper side

D) May even lack stomata on the upper side

- c) A and D
- d) B and C

42. During water stress, the bulliform cells

A. Become turgid

B. Become flaccid

The correct options are

- a) A and C
- b) B and D

C. Make the leaf curl inwards

D. Make the leaf surface exposed

- c) A and D
- d) B and C

43. Which type of arrangement of vascular bundles occurs in roots of monocots?

- a) Conjoint open
- b) Radial

- c) Conjoint closed
- d) Bicollateral

44. The presence of cambium in the vascular bundles provides them the ability to

- a) Radially transport the food
- b) Forms secondary tissues

- c) Prevent water loss due to transpiration
- d) Conduct photosynthesis.

45. The cork cambium, cork and secondary cortex are collectively called

- a) Phellem
- b) Phelloderm
- c) Phellogen
- d) Periderm

46. The chief water conducting elements of xylem in gymnosperms are

- a) Tracheids
- b) Vessels
- c) Fibers
- d) Transfusion tissues

47. Heart wood differs from sap wood in

- a) Being susceptible to pest and pathogens
- b) Presence of rays and fibers
- c) Absence of vessels and parenchyma
- d) Having dead and long conducting elements

48. An annual ring is formed by

- a) 2 consecutive rings of spring wood
- b) Two alternate rings of spring wood and autumn wood
- c) Two consecutive rings of autumn wood
- d) Two alternative ring of sap wood and heart wood

49. The vascular bundles in the stems of most of dicots are conjoint, collateral and open. In each of this bundles

- a) Xylem and phloem are on the same radius with phloem towards the pith and xylem towards the pericycle without a strip of cambium between them
- b) Xylem and phloem are on the same radius with xylem situated towards the pith and phloem situated towards the pericycle and a string of cambium separates the two
- c) Xylem completely surrounds the phloem of all sides but two are separated by the cambium
- d) Phloem completely surrounds the xylem and a strip of cambium separates the two

50. When secondary growth is initiated in dicot stem, what will happen first?

- a) the cells of cambium divide periclinally to form xylem mother cells
- b) inter fascicular cambium join with intra fascicular cambium
- c) parenchymatous cells present between vascular bundles become meristematic
- d) pith get obliterated.