

DAY EIGHT

Unit Test 2

(Structural Organisation in Animals and Plants)

- 1 A simple mechanical tissue devoid of lignin is
(a) collenchyma (b) parenchyma
(c) sclerenchyma (d) chlorenchyma

- 2 The lining of bone marrow cavity is called
(a) endosteum (b) endothelium
(c) endomyosium (d) endoneurium

- 3 Phyllode is present in
(a) *Asparagus* (b) *Euphorbia*
(c) *Australian acacia* (d) *Opuntia*

- 4 Whorled arrangement of leaves is found in
(a) *Calotropis* (b) *Ocimum* (c) *Tobacco* (d) *Nerium*

- 5 Consider the following statements regarding *Periplaneta americana*.
I. Head is hypognathous and is formed by the fusion of 6th segments.
II. The mouthparts consist of a pair of mandibles and maxillae, labium forming the upper lip and labrum forming lower lip, while the hypopharynx acts like a tongue.
III. Gizzard is muscular and internally provided with six cuticular teeth which crush the food.

Which of the statements given above are correct?

- (a) I and II (b) I and III (c) II and III (d) I, II and III

- 6 On the basis of stipules, match the stipule type with the plant in which it is present.
- | | | |
|----------------|---|------------------|
| (a) Spinous | — | <i>Smilax</i> |
| (b) Tendrillar | — | <i>Acacia</i> |
| (c) Ochreate | — | <i>Polygonum</i> |
| (d) Adnate | — | <i>Pisum</i> |

- 7 In which of the following, abnormal secondary growth is seen?

- (a) *Triticum* (b) *Cucurbita*
(c) *Dracaena* (d) *Helianthus*

- 8 Anatomically old dicot root can be distinguished from dicot stem by
(a) the absence of secondary phloem
(b) the presence of cortex
(c) the absence of secondary xylem
(d) the position of protoxylem

- 9 The number of abdominal segments in male and female cockroach is
(a) 10, 10 (b) 9, 10
(c) 10, 11 (d) 8, 10

- 10 Which component does not destruct even in thousand year old mummies?
(a) Collagen fibres
(b) White elastin fibres
(c) Yellow elastin fibres
(d) Both (b) and (c)

- 11 Identify the plant, in which the lower surface of the nodes gives out slender adventitious roots.
(a) *Solanum tuberosum* (b) *Cyprus*
(c) *Curcuma tuberosum* (d) *Lilium bulbifera*

- 12 Identify the plant in which the terminal bud is modified into tendrils
(a) passion flower
(b) citrus
(c) wood apple
(d) *Vitis* (grape)

- 13** The arrangement of tissues in bicollateral vascular bundle is
- outer cambium–outer phloem–middle xylem–inner phloem–inner cambium
 - outer phloem–outer cambium–middle xylem–inner cambium–inner phloem
 - outer xylem–outer cambium–middle phloem–inner cambium–inner xylem
 - outer phloem–outer xylem–middle cambium–inner xylem–inner phloem
- 14** White fibrous tissue is abundant in
- bone
 - cartilage
 - ligament
 - tendon
- 15** Which of the following plants does not contain thorn?
- Vitis*
 - Wood apple
 - Duranta*
 - Bougainvillea*
- 16** Identify the correctly matched pair.
- Hibiscus rosa-sinensis* — Tree
 - Dalbergia sissoo* — Shrub
 - Raphanus sativus* — Herb
 - Mangifera indica* — Tree with adventitious aerial roots
- 17** Wild strawberry is an example of
- offset
 - stolon
 - sucker
 - runner
- 18** Another name for squamous epithelium is
- brush-bordered epithelium
 - glandular epithelium
 - germinal epithelium
 - pavement epithelium
- 19** *Eichhornia* is an example of
- runner
 - offset
 - stolon
 - sucker
- 20** Which of the following tissues is ectodermal in origin?
- Muscles
 - Nervous tissue
 - Endocrine tissue
 - Blood
- 21** A fruit is a nut in
- Brassica*
 - Mangifera*
 - Anacardium*
 - Calotropis*
- 22** Dead elongated cells with tapering ends are found in
- vessels
 - tracheids
 - sclerenchyma
 - xylem fibres
- 23** Which of the following is positively geotropic?
- Stem
 - Root
 - Leaf
 - Flower

- 24** Match the following columns.

Column I		Column II	
A.	Neutrophil	1.	Single large nucleus
B.	Eosinophil	2.	2-3 lobed nucleus
C.	Basophil	3.	Kidney-shaped nucleus
D.	Lymphocyte	4.	2-7 lobed nucleus
E.	Monocyte	5.	Bilobed nucleus

Codes

	A	B	C	D	E
(a)	2	1	3	5	2
(b)	2	5	1	4	3
(c)	4	5	2	1	3
(d)	2	4	5	3	1

- 25** Which of the following statements are correct?

- When a fruit develops from inflorescence, it is composite.
 - Mesocarp is the edible part in apple.
 - Gynobasic style is seen in *Ocimum*.
 - Hypanthodium is a special type of inflorescence found in *Euphorbia* species.
- I and IV
 - I and III
 - I and II
 - II, III and IV

- 26** The balloon-like growth of parenchyma in the lumen of vessels is known as

- tyloses
- tunica
- phellogen
- histogen

- 27** An example of merocrine gland is

- mammary gland
- pineal gland
- sebaceous gland
- salivary gland

- 28** Select the correct statement.

- Outer nodes are regions on stem, where leaves attach
- The growing apex of the stem is covered by apical bud
- The narrow zone surrounding the root is called root cap
- Hauatoria of *Cuscuta* contain chlorophyll

- 29** Match the following columns.

Column I		Column II	
A.	Gymnosperms	1.	Grit of pear
B.	Kranz anatomy	2.	Epidermal tissue
C.	Stone cells	3.	Heartwood
D.	Stomata	4.	Non-porous and softwood
		5.	Mesophyll undifferentiated cells

Codes

	A	B	C	D		A	B	C	D
(a)	1	2	3	4	(b)	5	4	2	1
(c)	4	5	1	2	(d)	5	2	3	1

30 Identify the correctly matched pair.

- | | | |
|----------------------------------|---|-------------|
| (a) <i>Agave</i> (century plant) | — | Cladode |
| (b) <i>Asparagus</i> | — | Bulbils |
| (c) <i>Opuntia</i> | — | Phylloclade |
| (d) <i>Ruscus</i> | — | Bulb |

31 Phloem parenchyma is not found in

- | | |
|-----------------|----------------------|
| (a) monocots | (b) dicots |
| (c) gymnosperms | (d) Both (a) and (c) |

32 Which of the following is an example of scaly, imbricate bulb?

- (a) *Amorphophallus* (zimikand)
 (b) *Allium sativum* (garlic)
 (c) *Allium cepa* (onion)
 (d) *Crocus sativus* (saffron)

33 Vascular bundles with water cavities are found in

- | | |
|------------------|------------------|
| (a) maize | (b) <i>Cycas</i> |
| (c) <i>Pinus</i> | (d) sunflower |

34 Consider the following statements.

- I. Neurons with longer processes happen to be the longest cells in the body.
- II. The non-myelinated gaps in the axon are called node of Ranvier.
- III. The neurilemma is composed of neuroglia cells.

Which of the statements given above are correct?

- | | |
|----------------|-------------------|
| (a) I and II | (b) I and III |
| (c) II and III | (d) I, II and III |

35 Axillary bud is modified into a tendril in

- | | |
|----------------------|-----------------------|
| (a) <i>Duranta</i> | (b) <i>Smilax</i> |
| (c) <i>Polygonum</i> | (d) <i>Passiflora</i> |

36 Identify the plant in which the leaves are arranged in an opposite decussate manner.

- | | |
|----------------------------------|-------------------------------|
| (a) <i>Alstonia</i> (devil tree) | (b) China rose |
| (c) Sunflower | (d) <i>Azadirachta indica</i> |

37 Cambium produces growth in

- | | |
|--------------|------------|
| (a) branches | (b) girth |
| (c) pith | (d) cortex |

38 Identify the correctly matched pair.

- | | | |
|---------------------------------|---|----------------|
| (a) Turmeric | — | Tuber |
| (b) Potato | — | Rhizome |
| (c) Onion | — | Tunicated bulb |
| (d) <i>Helianthus tuberosus</i> | — | Imbricate bulb |

39 Stone cell is the common term used for

- | | |
|---------------------|---------------------|
| (a) brachysclereids | (b) macrosclereids |
| (c) astrosclereids | (d) trichosclereids |

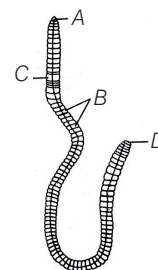
40 Which of the following is a corm?

- | | |
|------------------------------|--------------------------------------|
| (a) Maize | (b) <i>Solanum</i> (potato) |
| (c) <i>Zingiber</i> (ginger) | (d) <i>Amorphophallus</i> (zimikand) |

41 Which among the following is a non-endospermic seed?

- | | |
|------------|----------|
| (a) Castor | (b) Pea |
| (c) Papaya | (d) Rice |

42 Identity A, B, C and D in the given figure of dorsal view of earthworm's body and choose the correct combination of option given below.



- | |
|--|
| (a) A – Setae, B – Clitellum, C – Genital papillae, D – Anus |
| (b) A – Peristomium, B – Cilium, C – Male genital aperture, D – Base |
| (c) A – Prostomium, B – Metameres, C – Clitellum, D – Anus |
| (d) A – Annuli, B – Grooves, C – Metameres, D – Anus |

43 Hypanthodium occurs in

- | | |
|---------------|-----------------|
| (a) fig | (b) cauliflower |
| (c) sunflower | (d) coriander |

44 Consider the following statements about vascular cambium ring in secondary growth.

- I. In vascular bundles, the cambium present in between the primary xylem and primary phloem is called interfascicular cambium.
- II. Along with interfascicular cambium, some medullary ray cells also become active forming intrafascicular cambium.
- III. Both interfascicular and intrafascicular cambium join together and form a vascular cambial ring.

Which of the statements given above are incorrect?

- | | |
|----------------|-------------------|
| (a) I and II | (b) I and III |
| (c) II and III | (d) I, II and III |

45 In paddy, the edible part is

- | |
|--------------------------|
| (a) endosperm |
| (b) cotyledon |
| (c) endosperm and embryo |
| (d) fruit |

46 Opposite superposed arrangement of leaves is seen in

- | |
|---------------------|
| (a) mustard |
| (b) mango |
| (c) tobacco |
| (d) Rangoon creeper |

47 Fabaceae family is characterised by

- | |
|------------------------------|
| (a) tetradynamous androecium |
| (b) unilocular ovary |
| (c) syncarpous gynoecium |
| (d) All of the above |

- 48** Cork cambium arises from
 (a) periblem (b) phelloderm
 (c) phellogen (d) periderm
- 49** The matrix of cartilage contains the polysaccharide of a proteoglycan. It is
 (a) cartiline (b) ossein
 (c) chondroitin (d) casein
- 50** Tyloses are thickenings seen in
 (a) ray parenchyma
 (b) collenchyma
 (c) phloem cells
 (d) ray parenchyma and xylem cells
- 51** Identify the incorrect statement.
 (a) Lateral buds of stem give rise to flower
 (b) *Ipomoea* has reproductive roots
 (c) The spongy tissue of epiphytic root is called velamen
 (d) Floating roots of *Jussiaea* contain chlorophyll
- 52** Desmosomes are connected with
 (a) cell adherence (b) cell excretion
 (c) cell division (d) cytolysis
- 53** The type of vascular bundle in which xylem surrounds phloem is
 (a) amphicribal (b) collateral
 (c) leptocentric (d) conjoint
- 54** Closed vascular bundles do not contain
 (a) pith (b) conjunctive tissue
 (c) ground tissue (d) cambium
- 55** Histiocytes helps in
 (a) phagocytosis (b) matrix production
 (c) secretion (d) fibre production
- 56** Which one of the following does not match?
 (a) Bulb — *Allium cepa*
 (b) Phylloclade — *Opuntia*
 (c) Cladode — *Asparagus*
 (d) Bulbils — *Euphorbia*
- 57** Adipose tissue does not contain
 (a) basement membrane
 (b) fibroblast
 (c) amorphous ground substance
 (d) collagen fibres
- 58** Sclerenchymatous bundle sheath is found in
 (a) mango (b) grass
 (c) banyan (d) Both (a) and (c)
- 59** Winged seeds which aid in anemochory develop in
 (a) *Cinchona* (b) *Ailanthus*
 (c) *Papaver* (d) *Nymphaea*
- 60** Free-central type of placentation is seen in
 (a) *Cucurbita* (b) *Hibiscus*
 (c) *Brassica* (d) *Dianthus*
- 61** Which one of the following pairs of structures distinguishes a nerve cell from other types of cell?
 (a) Vacuoles and fibres
 (b) Flagellum and medullary sheath
 (c) Nucleus and mitochondria
 (d) Perikaryon and dendrites
- 62** Muscles responsible for movement of food in stomach is/are
 (a) stratified (b) unstratified
 (c) cardiac (d) None of these
- 63** Which of the following statements are true?
 I. If the stem is joined with solid nodes and hollow internodes, it is called caudex.
 II. In tridax, the stem is decumbent.
 III. Corm is a condensed form of rhizome growing more or less in vertical direction.
 IV. Runner is an underground modification of stem.
 V. Biparous type of cymose branching is seen in *Saraca*.
 Choose the correct option.
 (a) I, IV and V (b) II and III
 (c) II, III and V (d) III and IV
- 64** Ground substance of connective tissue is made up of
 (a) lipids
 (b) mucopolysaccharides
 (c) monosaccharides
 (d) phospholipids
- 65** Consider the following statements regarding heartwood.
 I. It does not help in water conduction.
 II. It is also called alburnum.
 III. It is dark in colour and physiologically active.
 IV. It has tracheary elements, which are filled with tannin, resins, etc.
 Choose the incorrect statements.
 (a) I and IV (b) I and II
 (c) II and III (d) III and IV
- 66** An organised and differentiated cellular structure having cytoplasm but no nucleus is called
 (a) vessels (b) xylem parenchyma
 (c) tracheids (d) sieve tubes
- 67** Which among the following permits distentions?
 (a) Stratified epithelium
 (b) Pavement epithelium
 (c) Transitional epithelium
 (d) Keratinised epithelium
- 68** Identify the correctly matched pair.
 (a) Offset — Mint
 (b) Stolon — *Pistia*
 (c) Runner — Jasmine
 (d) Sucker — *Chrysanthemum*

69 Match the following columns.

Column I (Types of neurons)		Column II (Examples)	
A. Unipolar	1.	Early embryo	
B. Bipolar	2.	Retina of eye	
C. Multipolar	3.	Brain	
D. Pseudounipolar	4.	Dorsal root ganglion of spinal cord	

Codes

A	B	C	D	A	B	C	D
(a) 2	3	4	1	(b) 1	2	3	4
(c) 3	2	1	4	(d) 1	3	2	4

70 The longest podomere in cockroach is

- (a) tarsus (b) tibia
(c) coxa (d) trochanter

71 Lignin is the important constituent in the cell wall of

- (a) xylem (b) phloem
(c) parenchyma (d) cambium

72 Reticular connective tissue is found in

- (a) tonsils (b) ciliary body
(c) ribcage (d) throat

73 Plants with soft stems are called

- (a) saplings (b) trees
(c) shrubs (d) herbs

74 Which of the following statements are true?

- I. If the stem is jointed with solid nodes and hollow internodes, it is called caudex.
II. In *Tridax*, the stem is decumbent.
III. Corm is a condensed form of rhizome growing more or less in vertical direction.
IV. Sucker is an underground modification of stem.
V. Biparous type of cymose branching is seen in *Saraca*.
(a) I, IV and V
(b) II and III
(c) II, III and IV
(d) III and IV

75 If an earthworm is left in 40% KOH solution for a long time, which part would be left undissolved?

- (a) Setae (b) Spermatheca
(c) Sand particles (d) Circular muscle

76 Match the following columns.

Column I	Column II
A. Tracheids	1. Depression in cell walls
B. Pits	2. Procambium
C. Sieve tubes	3. Metaphloem
D. Primary xylem	4. Dead and tube-like
	5. Conducting elements of phloem

Codes

A	B	C	D	A	B	C	D
(a) 4	5	2	1	(b) 3	2	1	5
(c) 1	2	5	4	(d) 4	1	5	2

77 Number of abdominal segments in the embryo of cockroach is

- (a) 8 (b) 9
(c) 10 (d) 11

78 Phylloclades are

- (a) leaf modifications
(b) one internode long stem
(c) modified petioles
(d) green succulent stems of indefinite growth

79 Which of the following statement(s) is/are incorrect in reference to the blood vascular system of the earthworm?

- I. Blood vascular system is of open type.
II. Smaller blood vessels supply the gut, nerve cord and the body wall.
III. Blood glands are present on 6th, 7th and 8th segments.
IV. Blood cells are phagocytic in nature.
(a) Only I (b) I and IV
(c) I and III (d) II and III

80 Secondary meristem produces

- (a) basal growth
(b) radial growth
(c) transverse growth
(d) vertical growth

81 The muscular tissues are derived from embryonic

- (a) mesoderm (b) endoderm
(c) ectoderm (d) Both (b) and (c)

82 A common characteristic feature of plant sieve tube cells is

- (a) the absence of mitochondria
(b) the presence of cell wall
(c) the presence of haemoglobin
(d) the absence of nucleus

83 According to histogen theory, epidermis is formed by

- (a) dermatogen (b) protoderm
(c) periblem (d) plerome

84 In roots, lateral branches grow from

- (a) epiblema (b) pericycle
(c) cortex (d) endodermis

85 Number of ganglia in the thorax of cockroach is

- (a) 4 (b) 3
(c) 6 (d) 8

86 Vessels of heartwood are blocked by

- (a) hydathodes (b) tyloses
(c) stomata (d) latex

- 87** Which one of the following correctly describes the location of some body parts in the earthworm *Pheretima*?
- (a) Two pairs of accessory glands in 16-18 segments
 - (b) Four pairs of spermathecae in 4-7 segments
 - (c) One pair of ovaries attached at intersegmental septum of 14th and 15th segments
 - (d) Two pairs of testes in 10th and 11th segments
- 88** What is common between tendon and ligament?
- (a) Both connect bone to bone
 - (b) Both are connective tissues
 - (c) Both connect bone to muscles
 - (d) Both are made up of striated muscles
- 89** Vascular bundles grow from
- (a) protoderm
 - (b) periderm
 - (c) ground meristem
 - (d) procambium
- 90** Skeletal muscles are
- (a) voluntary
 - (b) attached to bones of the skeletal system
 - (c) striated or striped
 - (d) All of the above

ANSWERS

- | | | | | | | | | | |
|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| 1 (a) | 2 (a) | 3 (c) | 4 (d) | 5 (b) | 6 (c) | 7 (c) | 8 (d) | 9 (a) | 10 (c) |
| 11 (c) | 12 (d) | 13 (b) | 14 (d) | 15 (a) | 16 (c) | 17 (b) | 18 (d) | 19 (b) | 20 (b) |
| 21 (c) | 22 (b) | 23 (b) | 24 (c) | 25 (b) | 26 (a) | 27 (d) | 28 (b) | 29 (c) | 30 (c) |
| 31 (a) | 32 (b) | 33 (a) | 34 (a) | 35 (d) | 36 (d) | 37 (b) | 38 (c) | 39 (c) | 40 (d) |
| 41 (b) | 42 (c) | 43 (a) | 44 (a) | 45 (c) | 46 (d) | 47 (b) | 48 (c) | 49 (c) | 50 (d) |
| 51 (d) | 52 (a) | 53 (c) | 54 (d) | 55 (a) | 56 (d) | 57 (a) | 58 (b) | 59 (a) | 60 (d) |
| 61 (d) | 62 (b) | 63 (b) | 64 (b) | 65 (c) | 66 (d) | 67 (c) | 68 (d) | 69 (b) | 70 (b) |
| 71 (a) | 72 (a) | 73 (d) | 74 (b) | 75 (a) | 76 (d) | 77 (d) | 78 (d) | 79 (c) | 80 (b) |
| 81 (a) | 82 (d) | 83 (a) | 84 (b) | 85 (b) | 86 (b) | 87 (d) | 88 (b) | 89 (d) | 90 (d) |