Morphology and Angiosperms

1. Presence of vascular tissue is an important characteristic feature of the following
    1. Algae and fungi
    2. Algae and bryophyte
    3. Pteridophytas gymnosperms and angiosperms
    4. Only gymnospersm and angiosperms
2. Match the following

Part of plant	Stalk for the same
a. Stamina	p - petiole
b. Flower	q - filament
c. Leaf	r - pedical
d. Ovule	s – peduncle
	t – funiculus

1. a=t, b=s,c=r,d=q 2. a=s, b=r, c=q, d=p

3. a=r, b=q, c=p, d=t 4 a=q, b=r, c=p, d=t

3. In the diagram of the Anatropous ovule, the different parts have been indicated by alphabets;

choose the answer in which these alphabets have been correctly matched with the part.

1. W-micropyle, X-nucellus, Y- embryosac, Z-chalza
2. W-chalaza, X-nucellus, Y-embryosac, Z-micropyle
3. W-micropyle, X-embryosac, Y-nucellus, Z-chalaza
4. W-nucellus, X-chalaza, Y-embryosac, Z-micropyle

4.Choose the wrong statement for solanaceae family

1. Cymose type of inflorescence

2. bisexual and zygomorphic flowers

3. persistant caly

4. bicarpellary and synacarpous ovary

5. Match the following

Scientific name	Common name of the plant
a. Withania somnifera	p. Tomato
b. Capsicum annuum	q. Brinjal
c. Sycopersicon esculentum	r. Ashwagangha
d. Solanum melagena	s. Soya bean
	t. Chillies

1. a=t, b=s, c=r, d=p 2. a=r, b=t. c=p, d=q

3. a=p, b=s, c=t, d=r 4. a=q, b=r, c=p, d=t

6. The floral formula Br  $P_{3+3}A_{3+3}\underline{G_{(3)}}$ belongs to

1. Solanaceae 2. Fabaceae
3. Asteraceae 4. Liliaceae

7. Types of vascular bundles

- Radial type – If xylem and phloem occur on separate alternate radii and are separated by a tissue called conjunctive tissue. Characteristico of both roots
- Conjoint V.Bs – If xylem and phloem are found together in one bundles, characteristics of both stems. There are different types.
  - I. Collateral open type – V.B.s with xylem and phloem arranged on the same radius and are separated by a strip of cambium e.g: dicot stems
  - II. Collateral closed type – V.B.s with xylem and phloem arranged on the same radius are not separated by a strip of cambium, e.g: Monocot stems.
  - III. Concentric bundles – V.B.s in which one vascular tissues encloses the other vascular tissue. Based on this there are two types.
- Amphicribal – V.Bs with xylem in the centre surrounded (-Hadrocentric) by the phloem. E.g. Ferns.
- Amphivasal – V.Bs with phloem in the centre surrounded by the (Laptocentric) xylem, e.g.: Dracaena, Yucca.
  - IV. Bicollateral open type – there is single strip of xylem in the middle. It is surrounded by a cambium on either side and again phloem on either side. Thus from outside, outer phloem, outer cambium, middle xylem, inner cambium and inner phloem. These bundles are always said to be open. E.g. Cucurbits

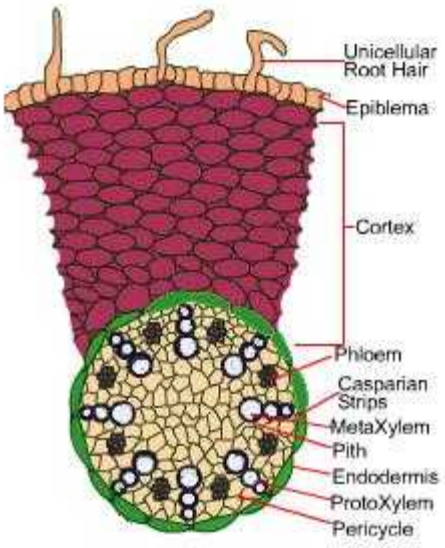
1. Photosynthetic parenchyma is also called_____
   a. Chlorenchyma b. collenohyma c. Sclerenchyma d. Prosenchyma
2. Root can be identified by
   a. Endarch xylem b. Mesarch xylem c. Exarch xylem d. Xylem parenchyma
3. The bundle cap of Helianthus stem belongs to
   a. Pericycle b. Endodermis c. Pith d. Cortex
4. Polyarch condition is seen in
   a. Dicot roots b. Dictor stem c. Monocot roots d. Monocot stem
5. In Eustele, the vascular bundles are
   a. Arranged in a ring b. Scattered in the ground tissue c. arranged one below other d. all these
6. The hardness of coconut shell (endocarp) is due to
   a. Collenchyma b. Xylem c. Sclereids d. Fibres
7. Collenchyma is generally absent in
   a. Flowers b. Roots c. Leaves d. Stems
8. A permanent tissue that usually acquires the power of cell division is
   a. Sclerenchyma b. Sieve tube c. Parenchyma d. Vessel

9. Amphistomatic condition is seen in
    a. Dicot Root b. Stems c. Monocot leaf d. Dicot leaf
10. Which of the following is enucleated?
    a. Sieve tube b. Albuminous cell c. Companion cell d. Phloem parenchyma
11. Atactostele is seen in
    a. Dicot stem b. Monocot stem c. Dicot root d. Monocot root
12. The pulp is Tomato fruit is
    a. Parenchyma b. collenchyma c. Sclerenchyma d. Phloem
13. Vascular bundles in Monocot stem are described as
    a. Conjoint, collateral endarch and closed
    b. Conjoint, collateral; endarch and open
    c. Radial, endarch and closed
    d. Concentric
14. Cells of parenchyma tissue are characterized by
    a. Presence of uniform thickening
    b. Presence of thickening at the corners
    c. Presence of lignified walls
    d. Presence of intercellular spaces
15. Growth rings are formed due to the activity of
    a. Intrastelar cambium b. Intercalary cambium c. Extrastelar cambium d. primary cambium
16. The bark of tree comprises
    a. Only the cork
    b. Cork and secondary cortex
    c. All the tissue outside the cork cambium
    d. All the tissues outside the cork cambium
17. Which of the following are absent in monocot stem, but present in dicot stem
    a. Epidermis and endodermis
    b. Epidermis and vascular bundles
    c. Endodermis and pith
    d. Endodermis and vascular bundles
18. Match the following

a. Epitherm	a. Lenticel
b. Guard cells	b. Monocot leaf
c. Motor	c. Hydathodes
d. Passage cells	d. Stomatal apparatus
e. Complementary cells	e. Endodermis of root

    1. a=c b=d c=b d=e e=a
    2. a=c b=d c=e d=a e=b
    3. a=d b=b c=e d=c e=a
    4. a=a b=c c=b d=e e=d
19. In the diagram of transverse section of monocot root given below, different parts have been indicated by alphabets. Choose the answer in which these alphabets have been correctly matched with the parts they indicate.

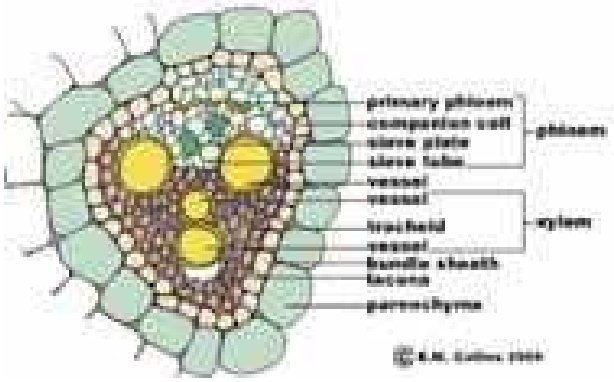
    1. A=Root hair, B=Epiblema, C=Endodermis, D=Cortex
       E=Protoxylem, F=Metaxylem, G=Conjunctive tissue



H=Phloem, I=Pith, J=Passage cells.

2. A=Root hair, B=Epiblema, C=Endodermis, D=Protoxylem, E=Cortex, F=Conjunctive tissue, G=Metaxylem, H=Phloem, I=Passage cell
3. A=Root hair, B=Epiblema, C=Cortex, D=Endodermis E=Passage cells, F=Pith, G=Metaxylem, H=Phloem, I=Protoxylem, J=Conjunctive tissue
4. A=Root hair, B=Endodermis, C=Epiblema, D=Passage cell, E=Pith, F=Metaxylem, G=Protoxylem H=Conjunctive tissue, I=Cortex, J=Phloem

20. In the diagram of a single vascular bundle given below (Monocot stem) different parts have indicated by alphabets. Choose the answer in which these alphabets have been correctly matched with the parts they indicate.



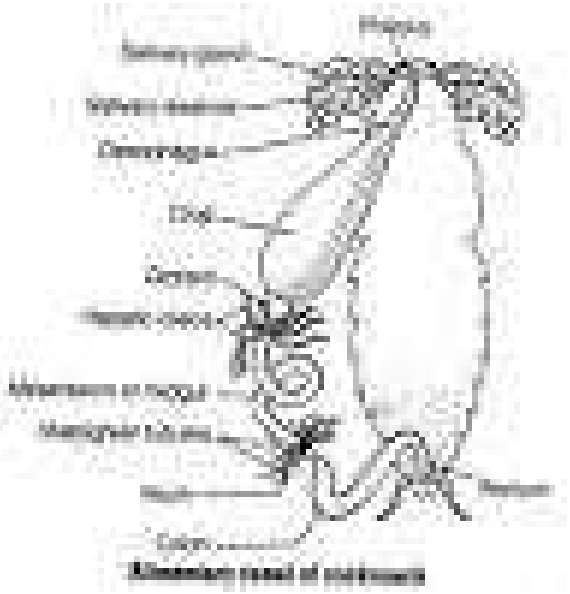
1. A=Sclerenchyma bundle sheath, B=Crushed Protophloem, C=Phloem, D=metaxylem, E=Protoxylem, F=Xylem parenchyma, G=Lysigenous cavity
2. A=Sclerenchyma bundle sheath, B=Phloem, C=Crushed protophloem,

D=Protoxylem, E=Metaxylem, F=Lysigenous cavity, G=Xylem parenchyma

3. A=Sclerenchyma bundle sheath, B=Crushed Protophloem, C=Phloem, D=Protoxy, E=Xylem parenchyma, F=Metaxylem, G=Lysigenous cavity

4. A=Metaxylem, B=Protoxylem, C=Phloem, D=Crushed Protophloem, E=Lysigenous cavity, F=Xylem parenchyma, G=Sclerenchyma – bundle sheath.

21. Choose the correct answer in the figure, indicating the alphabets with the correct parts of the digestive system in cockroach.



1. A=Salivary gland, B=Crop, C=Rectum, D=Malphigian tubule, E=Gizzard, F=Hepatic caeca
2. A=Salivary gland, B=Gizzard, C=Hepatic caeca, D=Crop, E=Malphigian tubule, F=Rectum
3. A=Crop, B=Salivary gland, C=Gizzard, D=Rectum, E=Hepatic caeca, F=Malphigian tubules
4. A=Salivary gland, B=Crop, C=Gizzard, D=Hepatic caeca, E=Malphigian tubule, F=Rectum.