

Academic year: <i>1st year</i>		Department: <i>Botany</i>
Program: <i>Biology</i>		Subject: <i>Morphology</i>
Date: <i>17 January 2011</i>		Time allowed: <i>2 Hours</i>

Mark your answers on the answer sheet.

1. Micropyle is:

- a. the scar, which marks the point of attachment to the funicle.
- b. the terminal of upper part of the embryo axis.
- c. considered as the first bud of the young embryonic plant.
- d. a very minute pore resulting from the incomplete fusion of the integument of the ovule.

2. The first stage in *Zea mays* characterized by:

- a. coleorhiza.
- b. a slightly curved plumule.
- c. coleoptile.
- d. two prophylls leaves.

3. Halophytes are:

- a. average plants, which occur in continuously moist conditions.
- b. plants live in dry conditions and scarce supply of water.
- c. water plants, which live in extreme moist conditions.
- d. plants which adapted to grow in salt-marshes and other saline soils.

4. Herbs:

- a. are woody plants, which don't exceed more than two or three meters.
- b. are soft plants with no woody part above the ground.
- c. producing foliage leaves throughout the year.
- d. shedding their leaves during one season and look bare.

5. Rearrange the following zones as seen in the root in vertical section, starting from its tip and choose the correct option.

- A. Root hair zone
- B. Bar Zone.
- C. Growing apex zone.
- D. Zone of elongation.
- E. Zone of lateral roots.

Options:

- a. **C, D, A, B, E**
- b. A, B, C, D, E
- c. D, A, E, C, B
- d. E, D, C, B, A

6. Green leaf-like is a modified aerial stem/branch with a single internode is called:

- a. Bulbil.
- b. Cladode.
- c. Phylloclade.
- d. Phyllode.

Part 2. Use the following diagram to answer the questions from 36 to 41 (1½ Mark Each)

36- This diagram represents the vascular bundles in

- a) monocot stem b) monocot root c) dicot stem d) dicot root

37- This vascular bundle is embedded in

- a) starch sheath b) ground tissue c) cortex d) pith

38- Number (1) known as

- a) bundle sheath b) xylem cavity c) phloem d) metaxylem

39- Number (2) known as

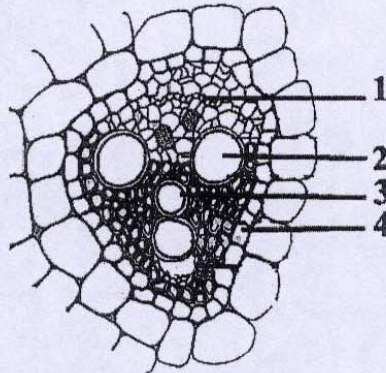
- a) bundle sheath b) xylem cavity c) metaxylem d) protoxylem

40- Number (3) known as

- a) phloem b) xylem cavity c) metaxylem d) protoxylem

41- Number (4) known as

- a) bundle sheath b) xylem cavity c) metaxylem d) protoxylem



Part 3: Which of following statements is True, and which is False (½ Mark Each)

42- Complex tissue composed of one type of cells which are associated together to perform a general function

- a) True b) False

43- Plastids found in the plant cells of underground parts are known as Chromoplasts

- a) True b) False

44- The vessels of xylem tissue are the conducting element of angiospermae.


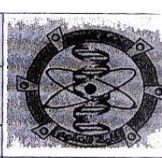
- a) True b) False

45- The Epidermal cells have a large central vacuole, peripheral thin cytoplasm and chloroplast.

- a) True b) False

46- The palisade tissue lies immediately below the upper epidermis of the leaf.

- a) True b) False

	UNIVERSITY OF FAYOUM, FACULTY OF SCIENCE DEPARTMENT OF BOTANY		
	FINAL EXAMINATION FOR FRESHMEN (FIRST YEAR) STUDENTS OF BIOLOGY/CHEMISTRY		
	COURSE TITLE: PLANT ANATOMY		
DATE: 19/1/2012	TERM: FIRST	TOTAL MARKS: 35	TIME: 2 HOURS

Answer the following questions

Part 1. Choose the correct answer: (½ Mark Each)

- 1- The xylem vessels are arranged in vertical rows in
a) Monocot stem b) Dicot stem c) Monocot root d) Monocot leaf
- 2- The colorless plastids in the plant cell are called
a) Leucoplasts b) Chloroplasts c) Chromoplasts d) Vacuoplasts
- 3- Simple starch grains with lobed hilum are found in.....
a) Potato b) Phaseolus c) Wheat d) Rice
- 4- In root apex, the tissues which protect the growing points from soil are called.....
a) Primordia b) Calyptra c) Procambium d) Calyptrogen
- 5- A single protective layer covers the surface of leaves, young roots and stems are called.....
a) epidermis b) cortex c) exodermis d) endodermis
- 6- Which structures are most characteristic of plant cells?
a) Mitochondria b) Nucleus c) Vacuoles d) Plastids
- 7- Starch grains of exocentric hilum are found in.....
a) Wheat b) Phaseolus c) Potato d) Rice
- 8- The tissue composed of cells that lost their capability of division are called..... tissues
a) simple b) complex c) meristematic d) permanent
- 9- The controls plant cell activities and carries its genetic character.
a) Plastid b) Nucleus c) Golgi apparatus d) Vacuole
- 10- In collenchyma, the thickening is deposited at the corners of the cells.
a) angular b) lamellar c) lacunar d) peripheral
- 11- Tannins are commonly located in the of waxy plants.
a) Plastids b) Mitochondria c) Nucleus d) Cell wall
- 12- Shizogenous glands are found in
a) Citrus fruits b) Pinus stems c) Rubber trees d) Euphorbia leaves
- 13- The cell wall arises at the end of cell division during.....
a) metaphase b) anaphase c) telophase d) prophase
- 15- Half-bordered pits are found between.....
a) vessels and tracheids. b) tracheid and parenchyma cells.
c) two vessel members. d) two parenchyma cells.

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14. Two seeds dissimilar in number of cotyledons but similar in type of germination, are:

- Vicia faba* and *Pheonix dactylifera*.
- Phaseolus vulgaris* and *Zea mays*.
- Ricinus communis* and *Zea mays*.
- Vicia faba* and *Ricinus communis*.

15. Two seedlings similar in number of cotyledons and in type of germination, are:

- Vicia faba* and *Ricinus communis*.
- Phaseolus vulgaris* and *Vicia faba*.
- Zea mays* and *Pheonix dactylifera*.
- b and c.

16. The "Eyes" of the potato tuber represent:

- Shoot buds.
- Root buds.
- Flower buds.
- Axillary buds.

17. The most reduced stem is found in:

- Bulb.
- Corm.
- Rhizome.
- Stem tuber.

18. The root in Mangrove tree (which found at mouth of seas and rivers) is:


- Respiratory adventitious root.
- Tuberous adventitious root.
- Prop adventitious root.
- Fibrous adventitious root.

19. A typical leaf consists of three parts:

- base, stalk and blade.
- base and petiole.
- base and lamina.
- petiole and lamina.

20. In Pinnatipartite or Palmatipartite lobed leaves:

- the divisions are almost the midrib.
- the lobes or cuttings are less than the half distance between the margin and the midrib.
- the lobes or cuttings are more or half the distance between the margin and the midrib.
- all of the above.

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29. Radical leaves:

- a. are the embryonic leaves, which are situated on the hypocotyl.
- b. are inserted on the main axis of the plant and its lateral branches.
- c. arise close to the roots of the plant.
- d. all of the above.

30. Opposite leaf insertion means:

- a. two opposite leaves are inserted at each node.
- b. a single leaf is inserted at each node.
- c. leaves arise close to the roots of the plant.
- d. more than one leaf arises at each node.

31. Whorled arrangement of leaves means:

- a. a single leaf is inserted at each node.
- b. leaves arise close to the roots of the plant.
- c. more than one leaf arises at each node.
- d. two opposite leaves are inserted at each node.

32. Phyllotaxy means:

- a. the part of the stem, which separates between two superposed leaves.
- b. more than one leaf arises at each node.
- c. two opposite leaves are inserted at each node.
- d. a single leaf is inserted at each node.

33. Leaf may be modified to carryout other functions other than photosynthesis. It is modified for:


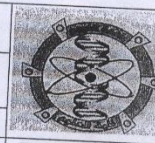
- a. protection.
- b. climbing.
- c. storage.
- d. all the above.

34. Heterophyllous Plants are those, which:

- a. It modified for protection.
- b. It modified for climbing.
- c. produce more than type of leaves.
- d. bear identical leaves on their stems.

35. Several forms of heterophylly of foliage leaves are:

- a. Developmental heterophylly.
- b. Adaptive heterophylly.
- c. Habitual heterophylly.
- d. all the above.

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