

# Questions bank for General Botany

## Q1/Fill the following blanks with appropriate phrases:

- 1- Botany: also called - - - - - .
1. Phytology, is the science of - - - - - and a branch of biology.
2. - - - - - is the chief component of plant cell wall.
3. Plants carry out photosynthesis using chlorophyll a and b, thus are - - - - - .
4. Plants store their carbohydrates as - - - - - .
5. Plants have - - - - - growth.
6. Biology deals with the study of plants called - - - - - and study of animals called - - - - - .
7. The cytoplasm contains all the of a - - - - - , and - - - - - components.
8. Gymnosperms mean - - - - - plants, and Angiosperms mean - - - - - plants.
9. plant cell includes the - - - - - together with the - - - - - .
10. Simple pits are usually found in - - - - - cells with thickened walls, in - - - - - and in - - - - - .
11. A protoplast consists of - - - - - and a - - - - - .
12. - - - - - occupy more than 90% of the Volume of most mature plant cells.
13. A person engaged in the study of botany is called - - - - - .
14. - - - - - is the chief component of plant cell wall.
15. Plants store their carbohydrates as - - - - - .
16. The main consist of plasma membrane is - - - - - bilayers.
17. - - - - - deals with naming and classifying of plants into different groups or sub groups.
18. The study of the cell and its various inclusions is covered in this branch called - - - - - .
19. - - - - - The study of how plants interact with their environments.
20. The plant cell typically consists of a more or less rigid - - - - - and - - - - - .
21. - - - - - is the chief component of plant cell wall.
22. In prokaryote cell division may occur - - - - - or even every few hours, while cell division in Eukaryote consists of two overlapping stages: - - - - - and - - - - - .
23. Nitrogen bases - 4 types they are: - - - - - , - - - - - , - - - - - , and - - - - - .

24. According to the position of meristems in the plant body they are divided into the following types: -----, -----, and -----.
25. Some roots are modified to carry out specialized functions of ----- and ----- nature.
26. Some taproots are modified for food storage as ----- or ----- tap roots.
27. Zone of ----- in roots: cells increase in size and push the root through the soil.
28. Zone of -----: cells become specific tissues: epidermis, cortex or vascular tissue.
29. Vascular tissue system: consist all ----- and ----- tissues in plant body.
30. ----- is the study of the external feature, while ----- is the study of internal structures of the living organisms.
31. Mitosis is ----- division, and cytokinesis is ----- division.
32. The sequence of the bases makes up the -----.
33. ----- This branch of Botany is concerned with used of plants and plant parts in drug industry.
34. ----- protects the end of the root.
35. Zone of ----- cells increase in size and push the root through the soil.
36. Two forms of sclerenchyma occur they are ----- and -----.
37. ----- cells provide the plant parts flexible support mechanisms.
38. Parenchyma tissue divided on the basis of function to -----, ----- and -----.
39. Simple permanent tissues are divided into three types such as to -----, ----- and ----- tissues.
40. According to the position of meristems in the plant body they are divided into the following types: -----, ----- and -----.
41. In cell cycle interphase can be divided into three phases, which are designated -----, -----, and second growth phase.
42. The epidermis in plant leaves and stems also contain pores called -----.

**Q2/ Mention main difference between:-**

- Monocot plants & Dicot plants
- Morphology & Anatomy
- Cell wall & Plasma membrane
- Starches & Crystals
- Chloroplast & Lueocoplast
- Tonoplast & Plasma membrane
- Mitosis & Meiosis
- Golgi apparatus & Mitochondria
- Chromosomes in eukaryotes & Prokaryotes.
- Simple tissues & complex tissues
- Trees & Herbaceous roots & underground stems

Enumerate the following:

- 1- Five Special characteristics of plants.
- 2- Five Scopes of Botany.
- 3- Ergastic substances.
- 4- Crystal types.
- 5- Chemical structures of crystals.
- 6- Types of collenchyma cells.
- 7- Secretory tissues
- 8- Under-ground stems
- 9- Plant habit types
- 10- DNA function.
- 11- Nitrogen bases.
- 12- The vessel types according to walls strengthened on the inside by thickened rings.
- 13- Plant cell living components.
- 14- Mitotic phases.
- 15- phloem tissues component.
- 16- Stomata apparatus consist of.
- 17- Types of parenchyma tissues.
- 18- Pit types.
- 19- Crystal types
- 20- Plastids
- 21- the principle functions of root

**Define the following terms:**

1. Anatomy 2. tonoplast. 3. cytokinesis 4. Cytology 5- Morphology.
6. Peroxisomes. 7. Protoplast. 8. Twining vines 9. Climbing vines
10. Dermal tissue 11. Meristematic tissues 12. Vascular tissue 13. Vessels
14. Bud. 14. Bark 15. Epidermis. 16. Guard cell 17. Herbaceous (Herbs).
18. Plant tissue 19. Cytokinesis 20. Cell differentiation

**Check the correct choices:**

( 18 marks)

1. .... they consist of RNA and protein  
a- Ribosome      b- Peroxisome      c- Cytoplasm
2. The Vacuole function is ..... regulation  
a- Protein      b- Starch      c- Water
3. The mitochondria are concerned with process of ..... conservation.  
a- Photosensitize      b- Energy      c- Transpiration
4. The complex of DNA and Protein called .....  
a- Chromatin      b- Ribosome      c- peroxisome
5. Pit has complementary pit exactly opposite it called .....  
a- Bordered pit      b- blind pit      c- pit pair
6. after plant photosensitize process plant release.....  
a- CO<sub>2</sub>      b- O<sub>2</sub>      c- N<sub>2</sub>
7. - - - - - Plants carry out photosynthesis using chlorophyll a and b.  
a. Xylem      b. Sclereids      c. Collenchyma
8. - - - - - Plants are the earth's main **autotrophs** and **fixers** of carbon and nitrogen.  
a. Permanent      b. Dermal      c. Schleranchyma
9. - - - - - **Pharmacognosy:** This branch of Botany is concerned with used of plants and plant parts in drug industry.  
a. Vascular      b. Simple      c. Schlerenchyma
10. - - - - - **Bordered** pits are found in the tracheary elements and in fiber- tracheids.  
a. Vessels      b. Phloem      c. Tracheids
11. A vacuole is a watery cell compartment surrounded by a membrane **tonoplast**. - - - - -.  
a. Cellulose      b. Nectaries      c. lignin
12. - - - - - **Chromoplasts** are usually yellow, orange or red because of the carotene pigments.  
a. Stoma      b. Trichome      c. Cuticle
13. - - - - - **Ribosomes** consist of RNA and protein mainly histone.  
a. Digestive      b. Oils      c. Nectar
- 14.. - - - - - - **Cytokinesis** involves the division of the cytoplasmic portion of a cell and the separation of daughter nuclei into separate cells.  
a. metaphase      b. cytokinesis      c. telophase

15. - - - - **Diakinesis:** The last stage before the dissolution of the nuclear membrane.  
 a. Stomata            b. Root hairs            c. Root cap
16. - - - - - **aleuronic grains** contain globoids and crystalloids of protein.  
 a. Phelloderm            b. woody parenchyma            c. vascular cambium.
- 17.- - - - - vary in different plants but may consist of parenchyma, tracheids, vessel elements, and wood fibers.  
 a. Xylem            b. Sclereids            c. Collenchyma
18. - - - - - tissues system: which consist of epidermis and periderms.  
 b. Permanent            b. Dermal            c. Schleranchyma
- 19.- - - - - tissue system: consist all xylem and phloem tissues in plant body.  
 a. Vascular            b. Simple            c. Schlerenchyma
- 20.- - - - -: are elongated dead cells with tapering ends and a cavity, or lumen.  
 a. Vessels            b. Phloem            c. Tracheids
- 21.Sclerenchyma tissue consists of cells that have thick, tough, secondary walls, normally impregnated with - - - - -.  
 a. Cellulose            b. Nectaries            c. lignin
- 22.Lenticel on a stem forms where a - - - - - once occurred.  
 a. Stoma            b. Trichome            c. Cuticle
- 23.- - - - - glands of carnivorous plants (enzymes).  
 a. Digestive            b. Oils            c. Nectar
- 24.The chromosomes are paused and aligned at the - - - - - plate.  
 a. metaphase            b. cytokinesis            c. telophase
- 25.- - - - - facilitate the absorption of water and minerals from the soil  
 a. Stomata            b. Root hairs            c. Root cap
- 26.- - - - - form a narrow tissue, between xylem and phloem.  
 a. Phelloderm            b. woody parenchyma            c. vascular cambium.
- 27..... they consist of RNA and protein  
 b- Ribosome            b- Peroxisome            c- Cytoplasm
- 28.The Vacuole function is ..... regulation  
 a- protein            b- starch            c- water
- b- photosensitize            b- energy            c- transpiration

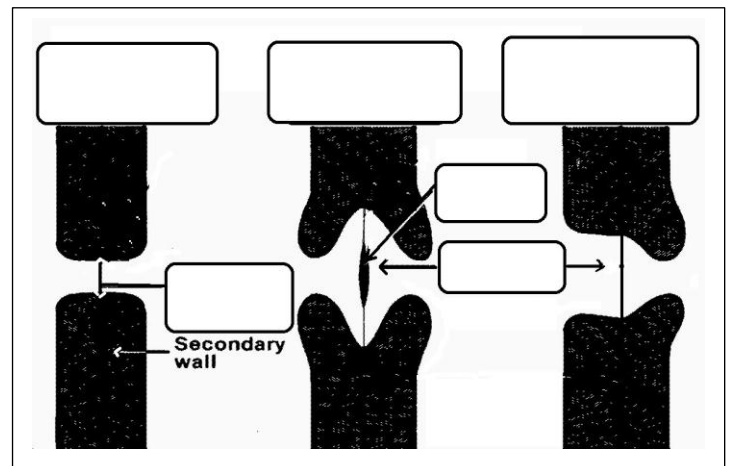
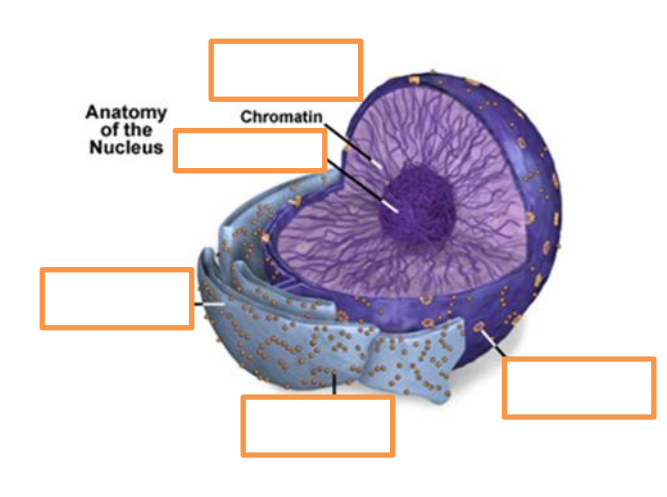
29. The complex of DNA and Protein called .....  
 b- chromatin      b- ribosome      c- peroxisome
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31. after plant photosensitize process plant release.....  
 b-  $\text{CO}_2$       b-  $\text{O}_2$       c-  $\text{N}_2$
32. - - - - vary in different plants but may consist of parenchyma, tracheids, vessel elements, and wood fibers.  
 b. Xylem      b. Sclereids      c. Collenchyma
33. - - - - tissue system: which consist of epidermis and periderms.  
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36. Sclerenchyma tissue consists of cells that have thick, tough, secondary walls, normally impregnated with - - - - .  
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41. - - - - - from a narrow tissue, between xylem and phloem.  
 a. Phelloderm      b. Woody parenchyma      c. Vascular cambium.
42. - - - - glands of carnivorous plants (enzymes).  
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43. - - - - - from a narrow tissue, between xylem and phloem.  
 a. Phelloderm      b. Woody parenchyma      c. Vascular cambium.
44. Angiosperms (Flowering Plants) include those groups which have ----- and bear their seeds in fruits.  
 a-Flower      b- no stem      c- spore
45. The nucleus is surrounded by an ----- and contains the nuclear matrix and one or more nucleoli.  
 a. envelopes      b. Chromoplasts      c. cell wall
46. Cell division in eukaryotes consists of two overlapping stages: mitosis and.  
 a. cell wall      b. nucleus      c. cytokinesis
47. the xylem vary in different plants but may consist of -----, tracheids, vessel elements, and wood fibers.

- a. Collenchyma    b. chlorenchyma    c. parenchyma
48. In - - - - , cell division may occur every day or even every few hours, producing a succession of identical organisms.
- a. eukaryotes    b prokaryotes    c. plants
49. Simple permanent tissues like parenchyma tissues, collenchyma tissues and-----
- a-xylem    b. phloem    c. sclerenchyma
- 50.-----is a side or branch root that arises from another root..
- a. tap root    b. Lateral root    c. Hair root
51. -----is a layer of meristematic tissue that separates the xylem and phloem and produces new xylem and phloem cells.
- a. cortex    b. periderm    c. Cambium
52. which are found in the apices of the main and lateral shoots and roots
- a. Apical meristems    b. Lateral meristems    c. Intercalary meristems
53. Under-ground stems are tubers, rhizomes, and ----- that store food for the plant.
- a. Buds    b. Vines    c. bulbs
54. The phellogen also called - - - - .
- a. periderm    b. cork cambium    c. phelloderm
- 55 . Various nonliving inclusions called -----substances are found in the cytoplasm.
- a. vacuole    b. ergastic    c. tonoplast
- 56.Plant biology or phytology, is the science of - - - - and a branch of biology.
1. plant life    b. plant morphology    c. plant structure
57. Plant cell walls are made from - - - -
- a. lipids    b. protein    c. cellulose
- 58.- - - - are non-pigmented Plastids usually located in tissues not exposed to light.
- b. Chloroplasts    b. Chromoplasts    c. Leucoplasts
- 59.- - - - occupy more than 90% of the Volume of most mature plant cells.
- b. Vacuoles    b. nucleus    c. endoplasm reticulum
- 60.- - - - helps form the backbone of the DNA molecule.
- b. sugars    b. phosphate group    c. nitrogen bases
- 61.In - - - - , cell division may occur every day or even every few hours, producing a succession of identical organisms.
- a. eukaryotes    b. plants    c. prokaryotes
61. In the - - - - plants the leaves are usually net veined.
- a. dicot    b. monocot    c. woody plants
- 62.- - - - which are found in the apices of the main and lateral shoots and roots.
- a. Apical meristems    b. Intercalary meristems    c. Lateral meristems
63. When the parenchyma cell contains chloroplast called - - - - .
- a. collenchyma    b. sclerenchyma    c. chlorenchyma
64. Sieve tube cells have no nuclei,so the - - - - provide all the nutrients to the sieve tube cell.
- a. companion cell    b. Meristematic cell    c. Collenchyma cell
65. The walls of the epidermal cells of the aerial parts are covered by a - - - - .
- b. Pectin    b. tannin    c. cuticle
66. - - - - facilitate the absorption of water and minerals from the soil

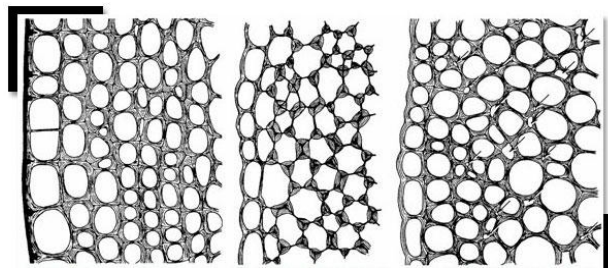
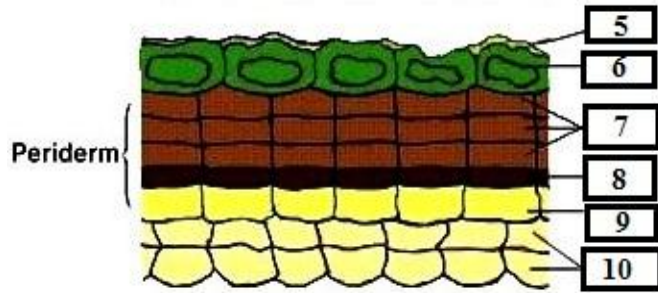
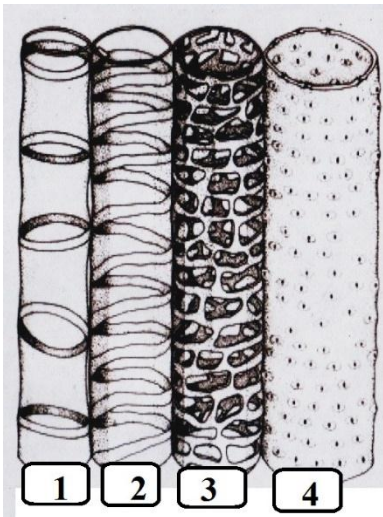
- a. Glandular hairs      b. Root hairs      c. Multicellular hairs
67. The phellogen also called - - - - - .  
 a. cork cambium      b. periderm      c. phelloderm
68. The - - - - - tissue inside the lenticel is more loosely packed  
 a. Complementary tissue      b. secondary cortex      c. cortex
69. - - - - - are specialized cells that function in structural support.  
 a. Sclerenchyma      b. Parenchyma      c. Meristem
70. If the primary root elongates downward and develops few lateral roots then it is  
 Called - - - - - .  
 a. fibrous root      b. aerial root      c. tap root
71. - - - - - : conduct water and dissolved minerals.  
 a. Xylem      b. Phloem      c. Cambium
73. - - - - - have one main trunk and are usually taller than 12 feet (f = 30.48 cm).  
 a. Trees      b. Shrubs      c. Herbaceous or succulent stem
74. Sweet potatoes produce underground storage organs called - - - - - .  
 a. conical roots      b. tuberous roots      c. fibrous roots

Rewrite the correct phrases into the blank boxes of these diagrams

(parts that have been pointed)



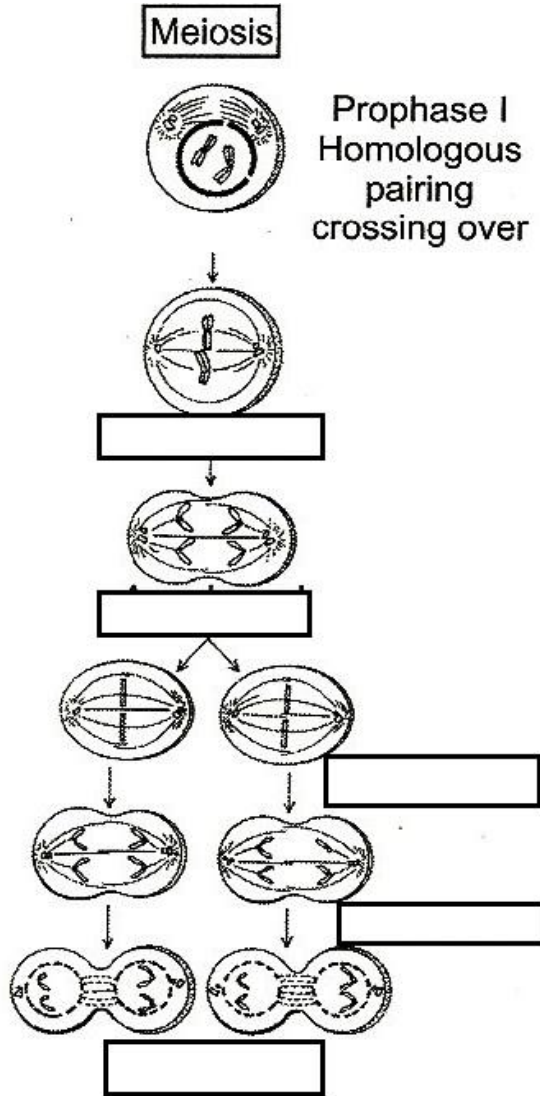
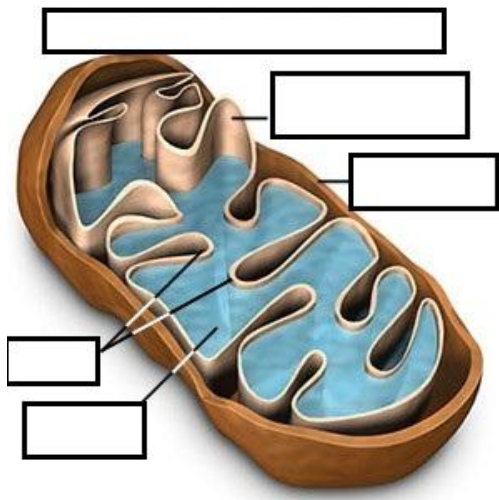
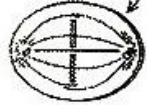
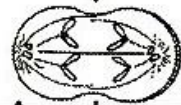
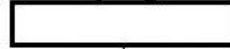
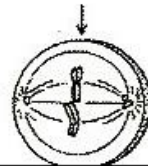


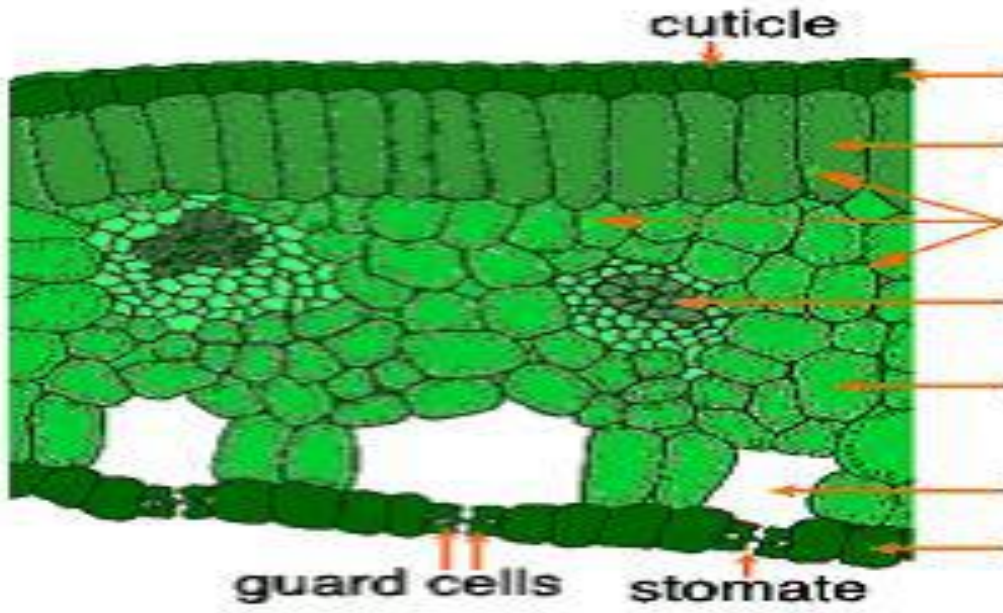


Meiosis



Prophase I  
Homologous pairing  
crossing over





*Dr. Khalid Mohamood Ahmed*

*Dr. Asmaa Sayed Ahmed*

Serwan

*Dr. Serron J. Aldabbagh*