



## BIOLOGY

# BOOKS - BHARATI BHAWAN BIOLOGY (HINGLISH)

### PRACTICALS



**1.** Why are plant cells regular in shape ?

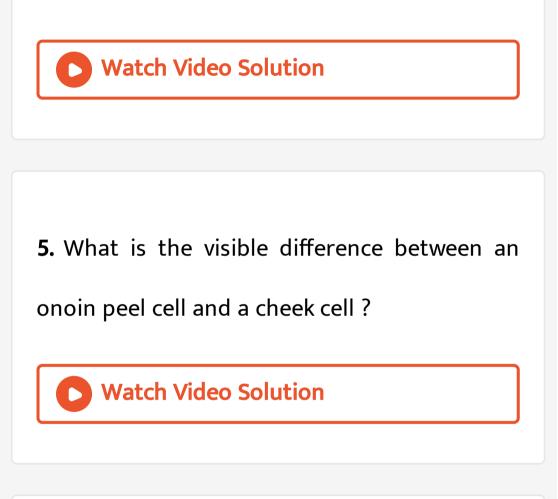
**2.** Why do we use glycerine for mounting onion peel or check cells ?



**3.** Why can't we see mitochondria and other cytoplasmic organelles in the cells of the mount ?



4. What are the three main parts of a cell ?



6. Which stain is used for staining plant cells ?

7. Name the stain used for staining animal

cells

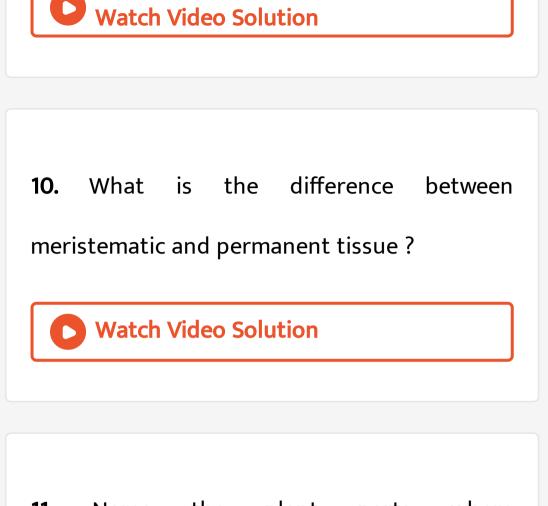


8. What is the main constituent of cell walls ?

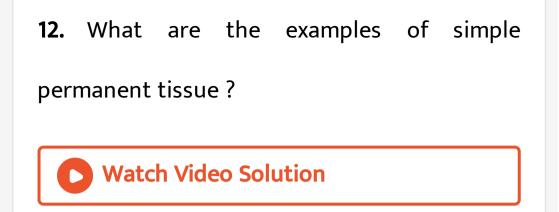
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9. Define the tissues.





**11.** Name the plant parts where paranchymatous cells are present.



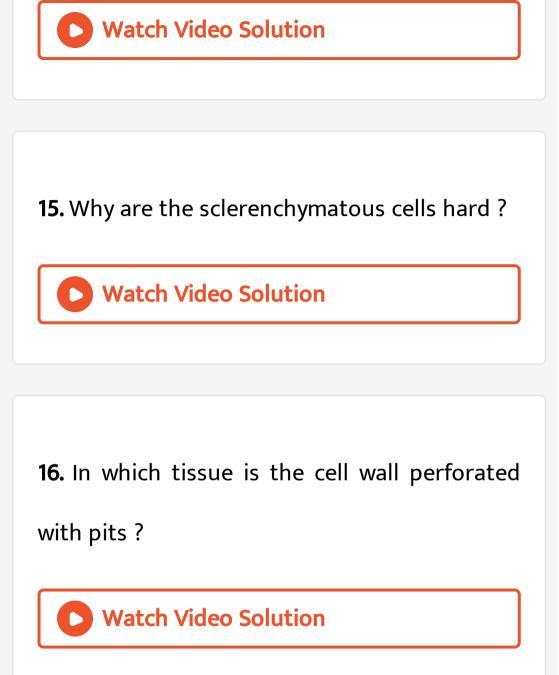
13. Name the plant tissue which is dead at

maturity.

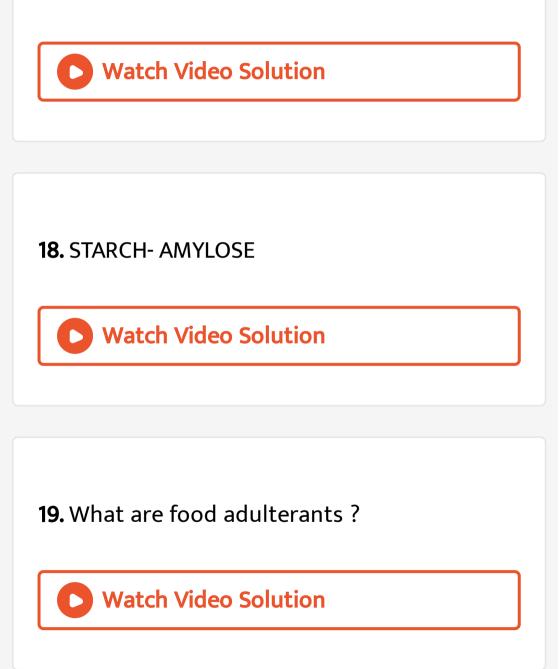
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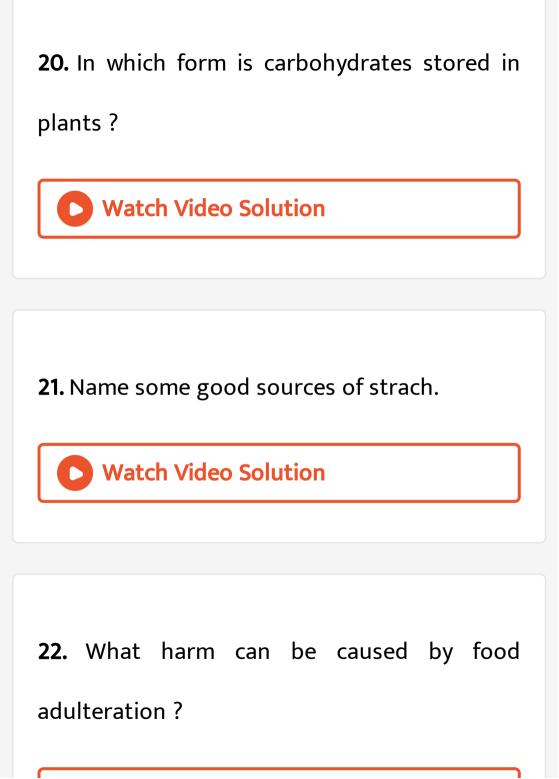
14. Name the tissue which provides mechanical

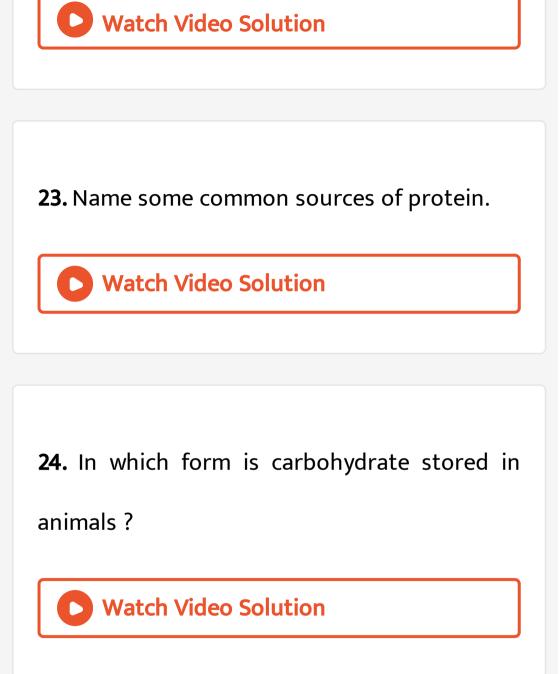
strength to the plant organs.



17. The major components of food are







25. Name the disease caused by eating arhar

dal adulterated with Khesari dal.

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26. Most food items are marked with ISI, FPO

and Agmarks.What are their full forms?

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27. Define osmosis



**28.** By which process do water molecules diffuse out from a living cell ?

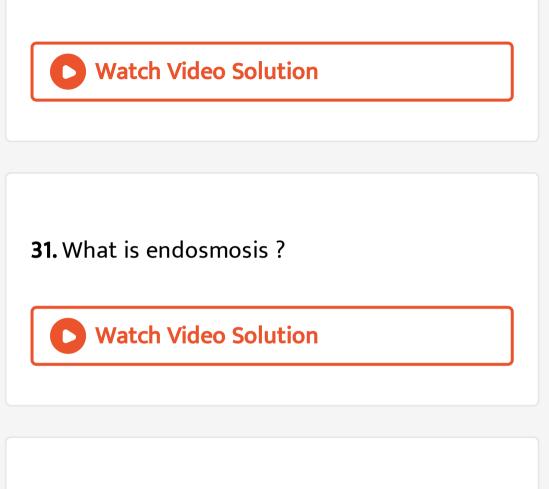
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29. Which molecules can move freely across

the semipermeable membrane of plant cells ?



**30.** How long does endosmosis continue ?



32. Why should e dry the raisins with blotting

paper gently after taking them out of water ?

**33.** What is a hypotonic solution ?

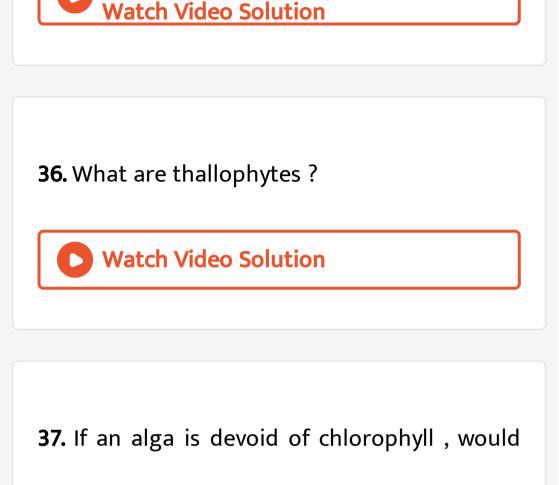


**34.** Write down the differences between diffusion and osmosis.

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**35.** What are algae ?





you call it a fungus ?

38. What is the role of pyrenoids present in

the chloroplast /

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39. Why is the spirogyra commonly known as

pond silk?

40. What makes the spirogyra filaments slimy

to touch ?

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41. What is the most characteristic feature of

spirogyra?

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**42.** Why are fungi heterotrophic?

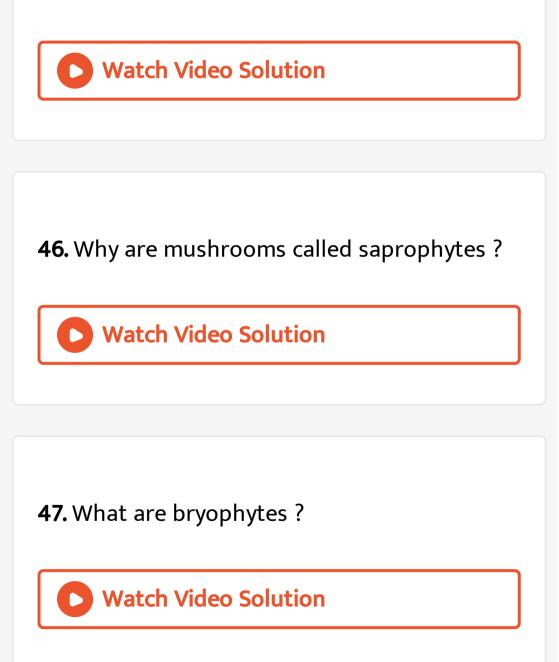


**43.** Give the botanical name of an edible mushroom.

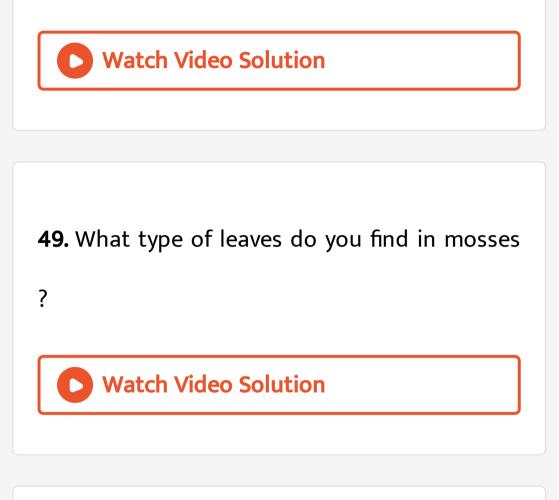
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**44.** Can you grow mushrooms in your house ?

45. Fungi differ from algae in being



**48.** What is the dominant phase in Funaria ?



50. What are sporophylls ?

**51.** What is circinate vernation ?

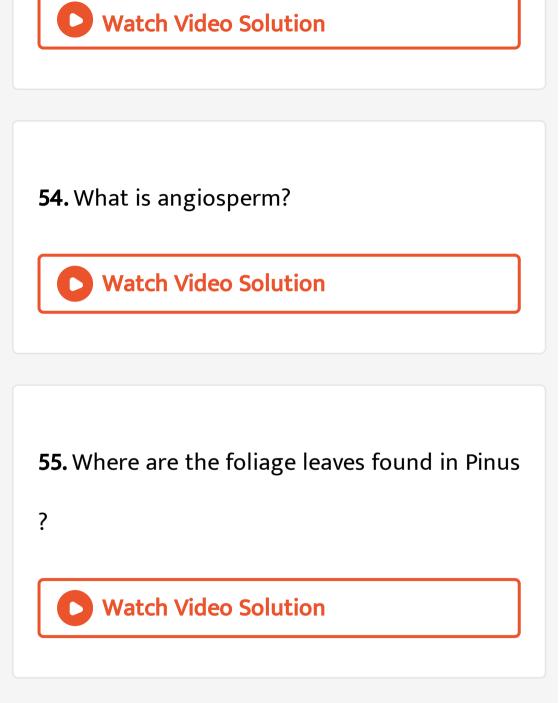
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52. How are pteridophytes different from

bryophytes /

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53. What are gymnosperms ?



56. What is a male cone ?



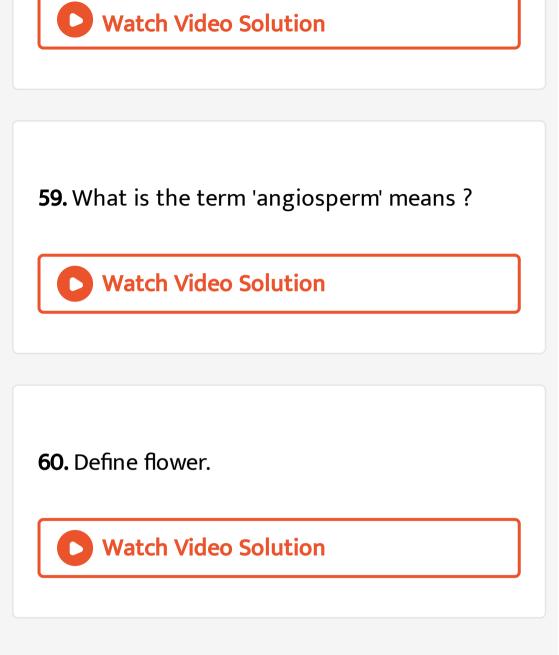
### 57. In how many years does the female cone of

Pinus mature ?

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58. What characters of Pinus classify it as a

gymnosperm?



61. What are the characteristic features of monocots ?

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62. Name the part of the plant which develops

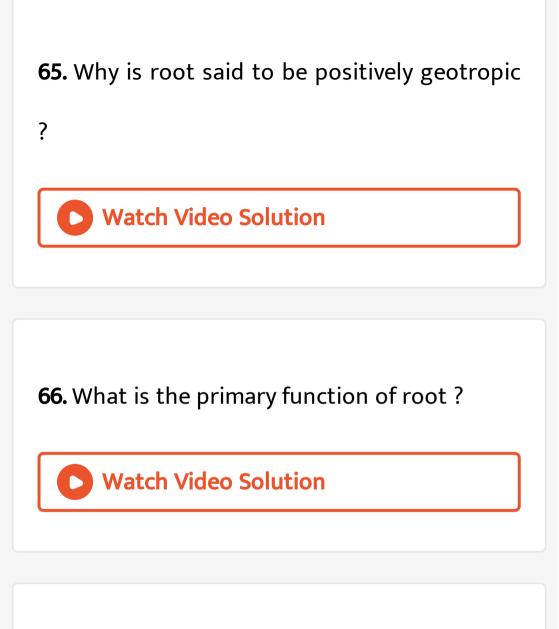
from the radicle in dicots.



63. Name the structure which protects the root tip .Watch Video Solution

64. Which part of the embryo forms the root

in a plant ?



**67.** Which type of root is found in monocots ?

68. Name the roots that arise from any other

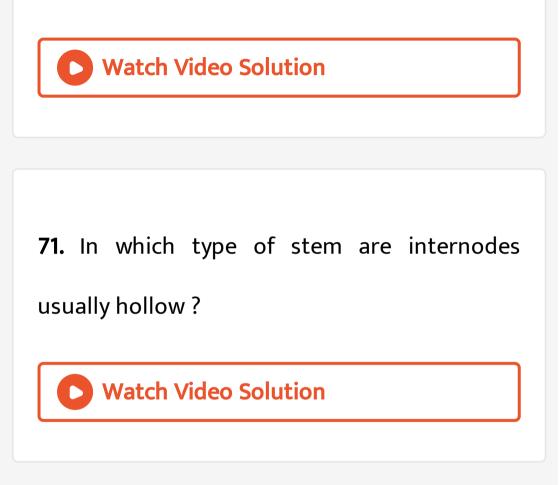
plant part except the radicle.



**69.** Name the part of the stem that lies between two nodes.

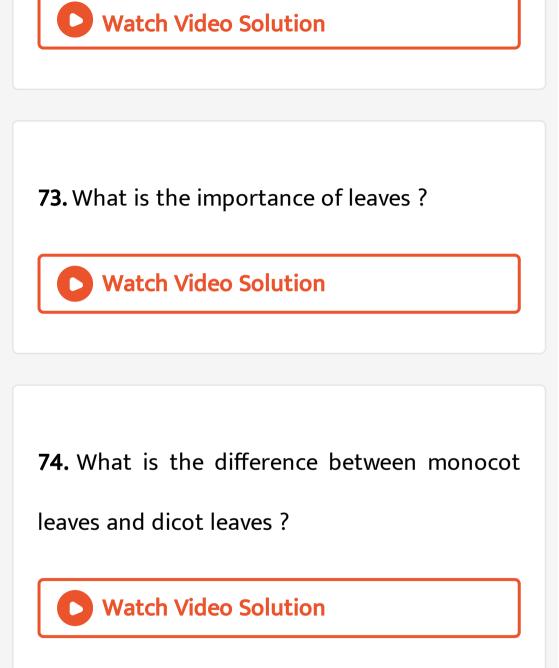


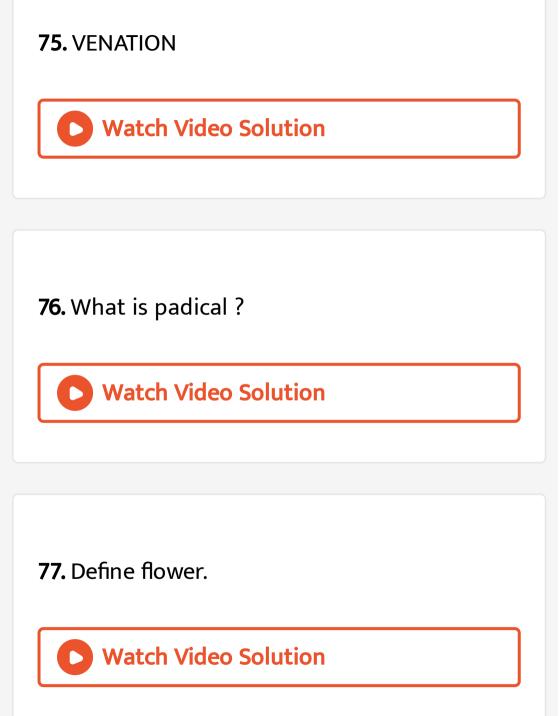
**70.** What are the main functions of a stem?



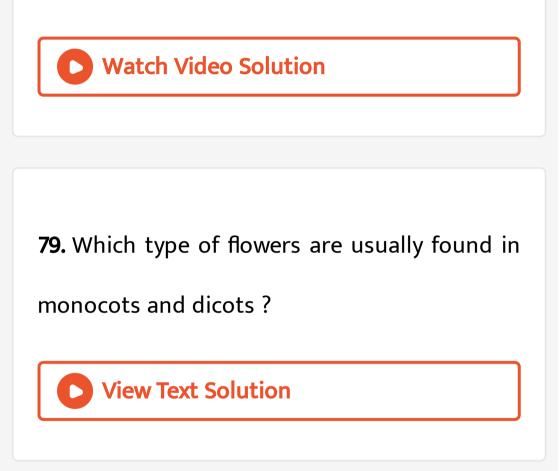
72. What is the difference between simple leaf

and compound leaf?



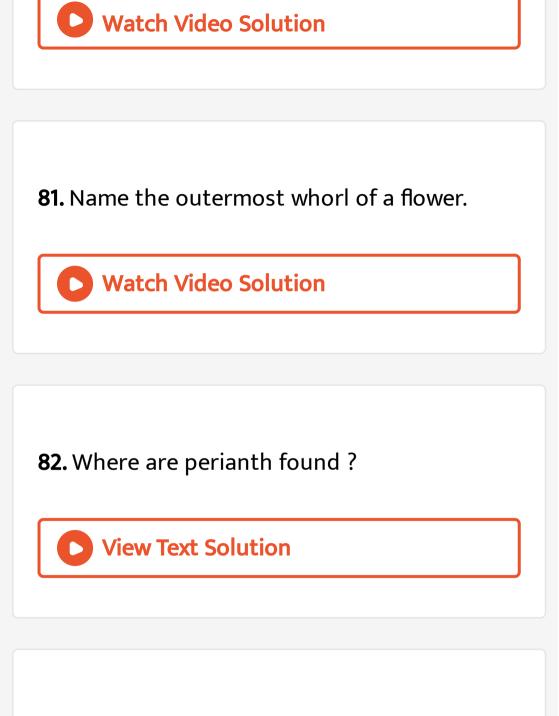


**78.** What is the term 'angiosperm' means ?



80. What are the reproductive organs in a

flower?



**83.** What is perianth ?

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### **Exercise Multiple Choice Questions**

**1.** What type of cells will you observe in an onion peel examined under a microscope ?

A. Dead cells

- B. Guard cells and stomata
- C. Typical plants cells
- D. All of these

#### Answer: C



**2.** On adding a drop of iodine solution to an onion peel,

A. the cells will shrink

B. the cells will swell up

C. the cells will turn yellow

D. the food stored as starch in the cells will

turn blue-black in colour

Answer: D

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3. Why do we cover the onion peel placed on a

glass slide with a coverslip ?

A. To protect the objective of the

microscope

B. To protect the onion peel cells

C. To protect the glass slide

D. To focus the specimen

Answer: A

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4. Which type of cells are there in the onion

peel?

A. Guard cells

B. Oval cells

C. Epidermal cells

D. None of these

Answer: C

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5. An onion is a modified

A. root

B. stem

C. leaf

D. rhizome

Answer: B



**6.** When you observe the onion peel under the high magnificaton of the microscope after observing it under low magnification what differences do you see ?

- A. Cell size appears larger
- B. Fewer cells are seen
- C. Cell organelleslook magnified
- D. All of these

#### Answer: D



7. Why do we keep the onion peel on a drop of

water ?

A. To keep the cells living and transparent

B. To prevent displacement of the

specimen

C. To make the cells larger

D. None of these

Answer: A

8. What kind of cells are the human cheek cells

A. Dead animal cells

B. Living animal cells

C. Cells without nucleus

D. All of these

Answer: B

?

9. Why is the flat end of a sterile toothpick used to scrape the inside surface of the cheek ?

A. To prevent injury and infection

B. To get more cells

C. To avoid saliva

D. All of these

Answer: A

10. If the cheek cells are placed on a dirty slide

, what do we observe under the microscope ?

A. Cells appear coloured

B. Cells show staining

C. Cells are not visible clearly

D. None of these

Answer: C

11. The oval dense structure present in the

centre of a cheek cell is

A. cytoplasm

B. cell membrane

C. vacuole

D. nucleus

**Answer: D** 

**12.** The region between the nucleus and cell membrane in a cheek cell is occupied by

A. protoplasm

B. cytoplasm

C. vacuole

D. None of these

Answer: B

**13.** Which of the following is not found in cheek cells ?

A. cytoplasm

B. Nucleus

C. Cell membrane

D. Cell wall

Answer: D

14. Which of the following features makes

plant cells autotrophic ?

A. Plastids

B. Cell walls

C. Lack of centrioles

D. Mitochondria

Answer: A

**15.** Compared to the onion peel cells, cheek cells are more irregular in shape due to

A. presence of cell membrane

B. lack of large vacuole

C. Lack of cell wall

D. lack of plastids

Answer: C

16. Which of the following is not a example of

simple tisse in plants ?

A. Parenchyma

B. Collenchyma

C. Sclerenchyma

D. Xylem

Answer: D

**17.** Which of the following plant tissues generally have oval or spherical and thin-walled cells ?

A. Collenchyma

B. Sclerenchyma

C. Parenchyma

D. None of these

Answer: C

**18.** Which of the following simple permanent

tissues does not have closely packed cells ?

A. Sclerenchyma

B. Parenchyma

C. Collenchyma

D. All of these

Answer: B

**19.** Intercellular spaces are usually found between

A. parenchyma cells

B. collenchyma cells

C. sclerenchyma cells

D. None of these

Answer: A

20. What is the main function of parenchyma?

A. storage and assimilation of food

B. providing mechanical strength

C. storage of waste products

D. All of these

Answer: D

**21.** Parenchyma which contains chlorophyll is called:

A. collenchyma

B. Sclerenchyma

C. chlorenchyma

D. None of these

Answer: C

# 22. Which of the following tissues has lignified

cells ?

A. collenchyma

B. Parenchyma

C. sclerenchyma

D. chlorenchyma

Answer: C

23. Mature sclerenchyma cells are

A. living

B. dead

C. not packed closely

D. thickened with cellulose

Answer: B

24. The main function of sclerenchyma is to

A. synthesize food

B. store food

C. give mechanical support

D. store waste products

Answer: C

**25.** Which tissue is found in abundance in fibre-yeilding plants like jute and flax ?

A. Collenchyma

B. Sclerenchyma

C. Parenchyma

D. All of these

Answer: B

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### 26. A nerve cell is

A. striped

B. nonstriped

C. syncytial

D. elongated

Answer: D



### 27. A muscle cell is

A. provided with an end bulb

B. sheathed

C. myelinated

D. contractile

Answer: D

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28. A nerve cell differs from a muscle cell is

A. genetic constitution

B. the kinds of proteins in the cytoplasm

# C. being noncontractile

D. the features stated in (b) and (c)

Answer: B

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# **29.** How many dendrites are there in a hexapolar nerve cell ?

### A. Five

B. Four

C. Six

D. Seven

Answer: A

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# **30.** A solution that has a higher solute concentration than another solution is

A. isotonic

B. hypotonic

C. saturated

D. hypertonic

Answer: D

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**31.** When a cell is placed in a hypertonic solution the net movement of water molecules is

A. into the cell

B. out of the cell

C. into the vacuole

D. out of stomata

Answer: B

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32. A plant cell placed in water will

A. swell up and become turgid

B. swell up and burst

C. lose water and become flaccid

D. shrink and die

Answer: A

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33. Raisins placed in water swell up due to

A. plasmolysis

B. adsorption

C. exosmosis

D. endosmosis

#### Answer: D



**34.** The membrane which allows the solvent molecules to pass through it and not the solute molecules is called

A. impermeable membrane

B. semipermeable membrane

C. none of the above

D.

Answer: B

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# **35.** Which of the following is a partially permeable membrane in a cell ?

A. Cell wall

# B. cytoplasm

- C. Cell membrane
- D. All of these

### Answer: C

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### 36. Endosmosis takes place when a plant cell is

immersed in

A. an isotonic solution

- B. a hypotonic solution
- C. a hypertonic solution
- D. a saturated solution

Answer: B

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**37.** In osmosis , the net movement of solvent molecules is

A. from	а	region	of	their	lower
concentration to a region of their higher					
concentration					
B. from	а	region	of	their	higher
concentration to a region of their lower					
concentration					
C. always into the cell					
D. always out of the cell					

### Answer: B

**38.** When a raisin is placed in a concentrated

sugar solution it

A. swells up

B. shows no change

C. shrinks

D. dies

Answer: C

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**39.** What is the term used to describe the process in which water from a swollen raisin comes out when

A. Endosperms

B. Exosmosis

C. Active transport

D. Reserve osmosis

Answer: B

40. A partially permeable membrane of a cell

facilitates the process of

A. diffusion

B. plasmolysis

C. osmosis

D. imbibition

Answer: C

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41. A raisin placed in a concentrated salt solution, shrinks because A. slat enters its cells B. water comes out of its cells to establish an equilibrium C. the cytoplasm of its cells begins to decompose

D. salt comes out of its cells

Answer: B

**42.** At the end of the experiment, 'to determine the percentage of water absorbed by raisins', the raisins are wiped just before weighing. This is to ensure that:

- A. out hands do not get wet
- B. the raisins lose water before weighing
- C. ony water absorbed by the raisins is

weighed

D. the weighing scale does not get wet

#### Answer: C



**43.** A student soaked 5 g of raisins in beaker (A) containing 25mL of ice-chilled water and another 5 g of raisins in beaker (B) containing 25 mL of tap water at room temperature. After one hour the student observed that:

A. The raisins in ice-chilled water will

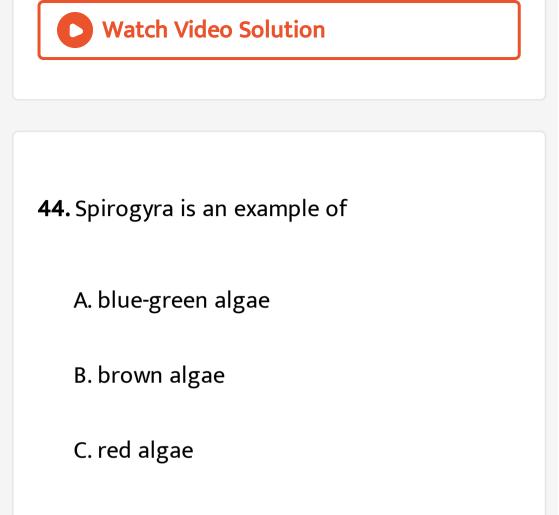
absorb more water than the raisins in

tap water.

- B. The raisins in tap water will absorb more
  - water thant the raisins in ice-chilled water.
- C. The amounts of water absorbed by the raisins in both the conditions will be equal .
- D. No water will be absorbed by the raisins

in either condition.

Answer: B



D. green algae

Answer: D



**45.** Which of the following is the characteristics feature of spirogyra ?

A. Thin cell wall

B. spiral chloroplast

C. star -shaped chloroplast

D. Filamentous structure

Answer: B

46. Spirogyra represents

A. multicellular organisation

B. filamentous algae

C. photosynthetic aquatic organism

D. All of these

Answer: D

**47.** Spirogyra is commonly known as pond silk due to its

A. filamentous structure

B. silklike texture

C. spiral chloroplast

D. presence of ponds

#### Answer: B

48. Agaricus is commonly called

A. bread mould

B. black mould

C. mushroom

D. bracket fungi

Answer: C

**49.** Which of the following commonly grows on decaying organic matter during the rainy season ?

A. Chlamydomonas

B. Mould

C. Spirogyra

D. Agaricus

Answer: D

**50.** Which of the following is a feature of Agaricus ?

A. An umbrella -shaped , white ,fleshy structure

B. A mycelial plant body

C. Saprophytic habit

D. All of these

Answer: D



**51.** In mushrooms, sexual reproduction occurs by the formation of spores on club-shaped structures called

A. mycelia

B. basidia

C. hyphae

D. sporangia

#### Answer: B

**52.** Which of the following is the group of simplest land plants ?

A. Algae

B. Fungi

C. Bryophytes

D. Pteridophytes

Answer: C

53. True roots and leaves are absent in

A. mosses

B. ferns

C. Pinus

D. angiosperms

Answer: A

**54.** Which of the following grow close together forming a velvety , matlike cover the substratum ?

A. Ferns

B. Mosses

C. Lichens

D. Fungi

**Answer: B** 



55. The most developed seedless plants are

A. mosses

B. ferns

C. gymnosperms

D. angiosperms

Answer: B

**56.** Which of the following characters are found in ferns ?

A. The plants body is differntiated into an

aerial shoot system and an underground

root system.

B. The leaves are divided into leafleats

C. The plants have vascular tissues

D. All of these







## 57. A plant having seeds but lacking flowers

and fruits belongs to

A. pteridophytes

B. ferns

C. gymnosperms

D. mosses

Answer: C

58. Which of the following is a conifer ?

A. cycas

B. pea

C. Pinus

D. Mango

Answer: C

59. What are the differnces between the male

and female comes of Pinus ?

A. The male cones are fewer than the

female cones

B. The male cones are larger than the

female cones

C. The male cones are smaller and many

more than the female cones.

D. None of these





### 60. The seed remain enclosed in a fruit in

A. mosses

- B. ferns
- C. gymnosperms
- D. angiosperms

Answer: D



61. A rice plant is an example of a

A. dicot

B. monocot

C. gymnosperms

D. fern

**Answer: B** 

62. The leaves of a monocot plant have

A. reticulate venation

B. swelling at the base

C. parallel venation

D. All of these

Answer: C

63. The floral part are usually pertamerous (5

in number) in

A. dicots

B. monocots

C. gymnosperms

D. All of these

Answer: A

64. Where do earthworms live ?

A. In cowdung

B. In the soil

C. In the intestine of birds

D. In human excreta

Answer: B



**65.** What do earthworm eat ?

A. Soil with organic matter

**B.** Leaves

C. Insects

D. Bacteria

Answer: A

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**66.** Which characteristic feature of an earthworm makes it different from leeches?

A. The mode of locomotion

B. The mode of feeding

C. Musculature of its body

D. All of these

Answer: D

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67. An earthworm lacks

A. haemoglobin

B. teeth

C. nephridia

D. pharynx

Answer: B

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68. Leeches do not have

A. Testes

B. distinct clitellum

C. gut

D. suckers

**Answer: B** 



69. The body of an earthworm is

A. thin and moist

B. hard and dry

C. yellow

D. black

Answer: A

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70. Earthworm lack

A. nerves

B. heart

C. kidney

D. haemoglobin





# **71.** The largest cell of the body of an earthworm is in its

A. testis

B. ovary

C. intestine

D. coelomic fluid





# **72.** Which structure in an earthworm is responsible for absorption ?

A. Trphlosole

B. Gizzard

C. Hepatic caeca

D. Pharynx





### 73. Which of the following is a true worm?

A. Flatworm

- B. Glow worm
- C. Lugworm
- D. Roundworm

Answer: D



## 74. Cockroaches are closely related to

A. crickets

B. mosquitoes

C. beetles

D. houseflies

Answer: A



**75.** Cockroaches live in

A. bright light

B. dark places

C. dry places

D. ponds

**Answer: B** 

**76.** The protective layer of the body of a cockroach is made up of

A. Keratin

B. Tannin

C. Chitin

D. Cartilage

Answer: C

#### 77. The female and male cockroaches are

A. equal in size

B. winged

C. wingless

D. omnivorous

Answer: D



78. Cockroaches are

A. omnivorous

B. insectivorous

C. carnivorous

D. sanguinivorous

Answer: A

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79. Female Anopheles lays eggs in

#### A. nest

B. mesh

C. cocoon

D. water bag

#### Answer: C

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# **80.** Which is the mode of feeding of cockroaches ?

A. Sucking blood

B. Sucking milk

C. Biting and chewing

D. Lapping liquid food

Answer: C

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81. Cockroaches are known to be

A. cursorial

B. active fliers

C. sedentary

D. creepy insect

#### Answer: A



# 82. The male and female cockroaches can be

ditinguised by their

A. antennae

B. eyes

C. anal cerci

D. anal style

#### Answer: D



# 83. The pores through which air enters the

body of a cockroach are called

A. spiracles

B. ostia

C. anus

D. cloaca

Answer: A



84. During copulation , cockroaches

A. take to flight

B. fight

C. comes in head to tail contact

D. come in tail to tail contact

#### Answer: D

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#### 85. A baby cockroach is called

A. caterpiller

B. nymph

C. wriggler

D. tumbler





# **86.** The upper lip pf cockroach is called

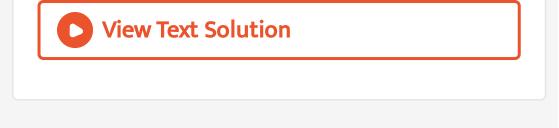
A. maxilla

B. stipes

C. mandible

D. ligula

Answer: C



# 87. The total number of segments comprising

head and thorax in cockroach is

A. 6

B. 3

C. 9

D. 8

#### Answer: C





# **88.** The most distant part of the leg of a cockroach is

А. соха

B. tibia

C. troachanter

D. Tarsus

#### Answer: D

89. The heart of a cockroach is

A. ventrally placed

B. tubular

C. laterally placed

D. four-chambered

**Answer: B** 

90. Which of the following is correct?

A. All fish have a bony endoskeleton

B. Some fish have a cartilaginous

endoskeleton

C. Gills in all fish are covered by an

operculum

D. All fish have gills as well as lungs

Answer: B

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**91.** Which of the following statements is correct ?

A. All fish are jawless

B. All fish are toothless

C. Some fish have additional breathing

organs

D. Fish have haemoglobin in its RBC

Answer: C



92. All fish lack

A. eyes

B. swim bladders

C. sexual organs

D. limbs

Answer: D

93. All fish are

A. scaly

B. scaleless

C. devoid of medulla

D. active balancers

Answer: D



94. The heart of a fish is

A. ventral

B. three-chambered

C. nonmuscular

D. nonpulsatile

Answer: A

95. The scale of fish are

A. respiratory

B. protective

C. excretory

D. glandular

Answer: B

96. The organ which regulates the buoyancy of

fish in water is called

A. air sac

B. trachea

C. swim bladder

D. barb

Answer: C

97. All fish lack

A. liver

B. endocrine gland

C. limbs

D. mucous gland

Answer: C



98. Birds lack

A. scales

B. urinary bladder

C. wings

D. air sacs

Answer: B

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99. Birds have beaks for

A. building nests

B. fighting

C. catching food

D. All of these

Answer: D

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**100.** Which of the following statements is correct ?

A. All birdds have special vocal sacs called

syrin.

B. All bird sing equally well.

C. All birds display courtship equally well.

D. All birds have solid , heavy bones

Answer: A

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**101.** Which of the following statements is correct ?

A. All birds can see well at night

B. A swan has to constantly move its legs

to float in water

C. Birds lays eggs in water

D. Some water are cold-blooded.

Answer: B



**102.** Which of the following statement is correct ?

A. A sparrow is smaller than a pigeon.

B. Crows and ravens belong to the same species.

C. A kingfisher is larger than an ostrich

D. The beak of a parrot is stronger than

that of a kite.

Answer: A



# 103. Flightless birds are

A. very light

B. very heavy

C. lighter than game birds

D. totally wingless

Answer: B

104. The greatest variety of birds occurs in

A. Australia

B. South America

C. India

D. North America

**Answer: B** 

105. Which of these organs of a bird is not

found in humas ?

A. Pecten

**B.** Intestine

C. Liver

D. Kidney

**Answer: A** 

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106. Which of the following is the largest bird

# ?

A. Penguin

B. Ostrich

C. Peacock

D. Crane

Answer: B

**107.** Which gland in a bird helps it arrange feathers ?

A. Green gland

B. Preen gland

C. Tear gland

D. Liver

Answer: B

108. Keel in the breastbone of a bird serves to

A. grasp food

B. digest food

C. attach flight muscles

D. perch on the branch

Answer: C

109. In which part of the body of a bird would

you find pecten ?

A. Eye

B. Nose

C. Leg

D. Ear

Answer: A

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110. Which of the following holds true for root

# ?

- A. Positively phototrophic
- B. Negatively geotrophic
- C. Positively geotrophic and negatively

phototrophic

D. Positively geotrophic and positively

phototrophic

Answer: C

111. Root differes from stem due to

A. presence of hairs

B. absence of nodes

C. presence of buds

D. thickness

**Answer: B** 

**112.** Absorption of water and minerals in the function of

A. root

B. stem

C. leaf

D. flower

Answer: A

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113. Region of cell division in roots is located

just below

A. root cap

B. region of elongation

C. region of maturation

D. root hairs

Answer: A

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114. Fibrous root is a type of

A. tap root

B. Adventitious root

C. Secondary root

D. Tertiary root

Answer: B

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115. The major function of stem is

A. absorption of water

B. conduction of water

C. to hold branches and leaves

D. photosynthesis

Answer: C

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116. Parallel venation is the characteristics of

A. dicot leaves

B. monocot leaves

C. both dicot and monocot leaves

D. None of these

Answer: B

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117. All the floral parts are arranged on

A. petiole

B. thalamus

C. stamen

D. petals

#### Answer: B



118. Calyx and corolla are known as

A. essential whorls

B. accessory whorls

C. secondary whorls

D. reproductive whorls

Answer: B

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119. Flower is a modified

A. vegetative bud

B. leaf

C. shoot

D. axis





# **120.** Which of the following constitute male reproductive part of a flower ?

A. Calyx

B. Corolla

C. Androecium

D. Gynoecium





## **121.** The basal swollen portion of the pistil is called

A. filament

B. ovary

C. stigma

D. anther





## **122.** The presence of trimerous flowers is the characteristics

A. dicots

B. monocots

C. bisexual plants

D. unisexual plants





## **123.** Which one of the following is true for dicot plants ?

A. Parallel venation

**B.** Trimerous flowers

C. Pentamerous flowers and reticulate

venation

D. None of the above

#### Answer: C

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**124.** The body of an adult mosquito is

A. divided into two parts

B. divided into ten parts

C. provided with compound eyes, wings

and legs

D. provided with four equal-sized wings

Answer: C

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### 125. Eggs of mosquito are

A. red

B. rounded

C. shelled

D. oval-or-cigar-shaped





**126.** Which is correct ?

A. Eggs of all types of mosquitoes are of

the same shape.

B. Larvae of all types of mosquitoes

reproduce in water.

C. Larvae of mosquitoes never cast off skin.

D. Larvae are voracious eaters

#### Answer: D

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#### 127. The larva of mosquitoes

A. breathes air

B. respires by gills

C. wriggles in water

D. has all the above characteristics





### **128.** The pupa of mosquito is called

A. tumbler

B. grub

C. maggot

D. tadpole

Answer: A



**129.** Which is incorrect with respect to mosquitoes ?

A. Different stages of development in mosquito are distinguishable
B. Adult mosquitoes feed on algae
C. Mosquitoes spread diseases such as malaria and dengue

D. Mosquitoes have respiratory trumpets.



