

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

بنك الأسئلة

Botany 102
Physiology & Systematic
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1 Mcq :

【1】 is an infectious agent and obligate intracellular parasite.

- A. Bacteria
- C. Algae

- B. Fungi
- D. Virus

💡 Answer: D

【2】 involves the uptake of free or naked DNA released by donor by recipient.

- A. Conjunction
- C. transformation

- B. transduction
- D. binary fission

💡 Answer: C

【3】 A complete virus particle is known as a

- A. Genome
- C. Virion

- B. Capsid
- D. Protein coat

💡 Answer: C

【4】 bacteria are those that require Co^2 for growth.

- A. Aerobic
- C. Aerobes

- B. Anaerobic
- D. Capnophilic

💡 Answer: D

【5】 The most diverse and highly adapted plant group is

- A. Bryophyta
- C. Gymnosperms

- B. Pteridophyta
- D. Angiosperms

💡 Answer: D

【6】 are symbiotic associations found between algae and fungi.

- A. Lichens
- C. azotobacter

- B. Mycorrhizae
- D. rhizopium

💡 Answer: A

【7】 The turgidity and expansion of plant cells are due to

- A. Osmosis
- C. Diffusion

- B. Transpiration
- D. Dialysis

 **Answer: A**

【8】 Movement of water is higher to lower

- A. Ψ_p (pressure potential)
- C. Ψ_s (Osmotic potential)

- B. Ψ_w (water potential)
- D. Ψ_w (wall pressure)

 **Answer: B**

【9】 A process in which liquid water is forced out through openings at the margins of leaves due to root pressure called.....

- A. Guttation
- C. Bleeding

- B. Transpiration
- D. None of these

 **Answer: A**

【10】 makes colloids a good catalyst.

- A. Absorption
- C. Adsorption

- B. Dialysis
- D. Diffusion

 **Answer: C**

【11】 What happens to enzyme activity when the temperature or PH exceeds the optimal range ?

- A. It increases
- C. It remains unchanged

- B. It becomes over activated
- D. It becomes Irreversibly inhibited

 **Answer: D**

【12】 What is the consequence of an enzyme reaching saturation with substrate molecules ?

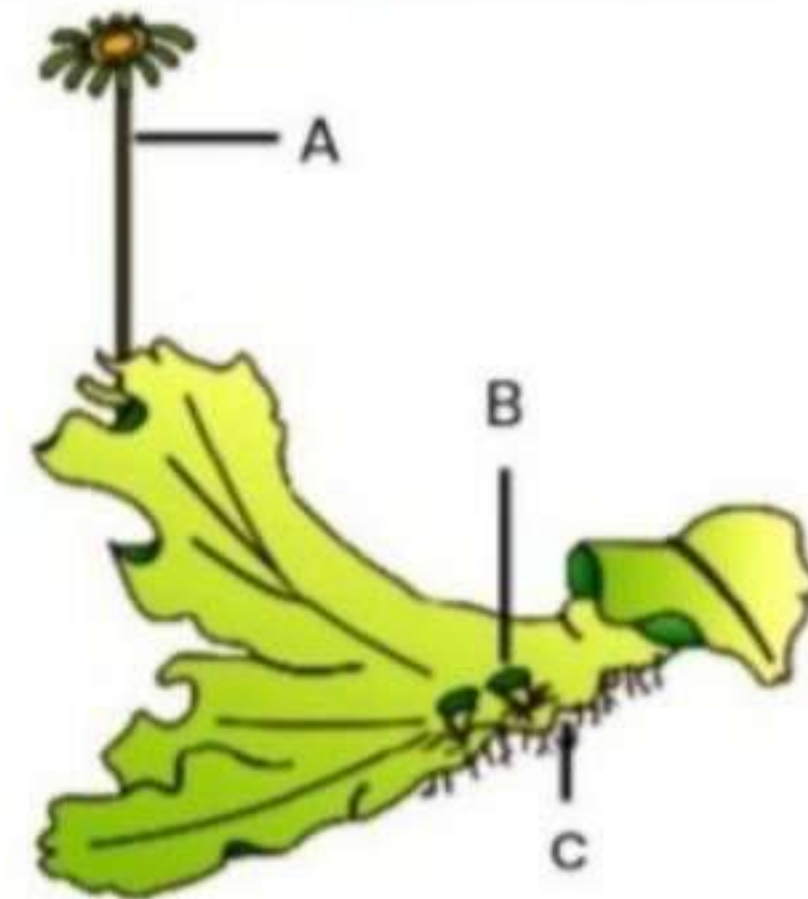
- A. The enzyme is inactivated
- C. The reaction rate increases linearly
- D. The reaction rate remains constant

- B. The reaction rate decreases

 **Answer: D**

【13】 Identify the labels for structures A,B and C in the following diagram of a female.

☆ *Marchantia* thallus (liverwort) by selecting the correct answer:



- A. (A) Antheridiophore (seta) , (B) Gemma cup , (C) Rhizoids
- B. (A) Antheridiophore (seta) , (B) Rhizoids, (C) Gemma cup
- C. (A) Archegoniophore (seta) , (B) Rhizoids , (C) Gemma cup
- D. (A) Archegoniophore (seta) , (B) Gemma cup , (C) Rhizoids

💡 Answer: **D**

【14】 The thallus of *Marchantia* here is

- A. Dioecious
- B. Monoecious
- C. Sporophyte
- D. None of these

💡 Answer: **A**

【15】 Gemma cup means

- A. Spore production
- B. Sexual reproduction
- C. Water absorption
- D. Asexual reproduction

💡 Answer: **D**

【16】 The thallus in liverworts is

- A. Cannot make its own food
- B. Diploid
- C. Haploid
- D. Do not need water for growth and reproduction

💡 Answer: **C**

【17】 are structures formed in bacillus bacteria during unfavorable conditions.

- A. Endospores
- B. Cysts
- C. Pili
- D. Flagella

 **Answer: A**

【18】 Fungi reproduce mostly by

- A. Binary fission
- B. Spores formation
- C. Transduction
- D. Transformation

 **Answer : B**

【19】 are zoosporic fungi , many are solely aquatic.

- A. Mastigomycota
- B. Myxomycota
- C. Basidiomycota
- D. Ascomycota

 **Answer: A**

【20】 Protects the viral genome against extracellular environments.

- A. Genome
- B. Capsid
- C. Viron
- D. Viral nucleic acid

 **Answer: B**

【21】 In which scenario does water move into a cell by osmosis ?

- A. When the cell is placed in a hypotonic Solution
- B. When the cell is placed in a hypertonic solution
- C. When the cell is placed in an Isotonic solution
- D. When the cell is placed in a hydrophobic solvent

 **Answer: A**

【22】 Which cellular process involves the movement of molecules across the cell membrane from an area of higher concentration to an area of lower concentration ?

- A. Active transport
- B. Passive transport
- C. Vesicle transport
- D. Endocytosis

 **Answer : B**

【23】 The site of protein synthesis in the plant cell is the

- A. Mitochondria
- C. Ribosomes

- B. Chloroplast
- C. Cytoplasm

💡 Answer: C

【24】 Cellophane paper is considered as

- A. True semi - permeable
- C. Permeable

- B. Non - true semi permeable
- D. None permeable

💡 Answer: B

【25】 The exosmosis takes place when the plant tissue is immersed in

- A. Hypertonic solution
- C. Hypotonic Solution

- B. Isotonic solution
- D. H²O

💡 Answer: A

【26】 Water potential of pure water is more than that of any solution. It's equal to

- A. One
- C. Less than one

- B. More than one
- D. Zero

💡 Answer: D

【27】 The most amount of water lost from the plant is almost due to

- A. Guttation
- C. Respiration

- B. Transpiration
- D. Bleeding

💡 Answer: B

【28】 The urease enzyme is a good example for enzymes to have..... specificity.

- A. Group
- C. Absolute

- B. Linkage
- D. Stereochemical

💡 Answer: C

【29】 Protease , peptidases and lipases enzymes belong to group

- A. Oxidoreductases
- C. Transferases

- B. Hydrolases
- D. Isomerases

 **Answer: B**

【30】 The amount of energy released from aerobic respiration is the amount released from anaerobic respiration.

- A. More than
- C. Equal to

- B. Less than
- D. Unknown

 **Answer: A**

【31】 The increase in relative humidity lead to in transpiration rate .

- A. Increasing
- C. Decreasing

- B. acceleration
- D. No effect

 **Answer: C**

【32】 The plant group whose reproductive process is highly dependent on water is

- A. Bryophyta
- C. Gymnosperms

- B. Pteridophyta
- D. Angiosperms

 **Answer: A**

【33】 Classification of bacteria based on

- A. Shape
- C. Structure

- B. Shape and arrangement
- D. Arrangement

 **Answer: B**

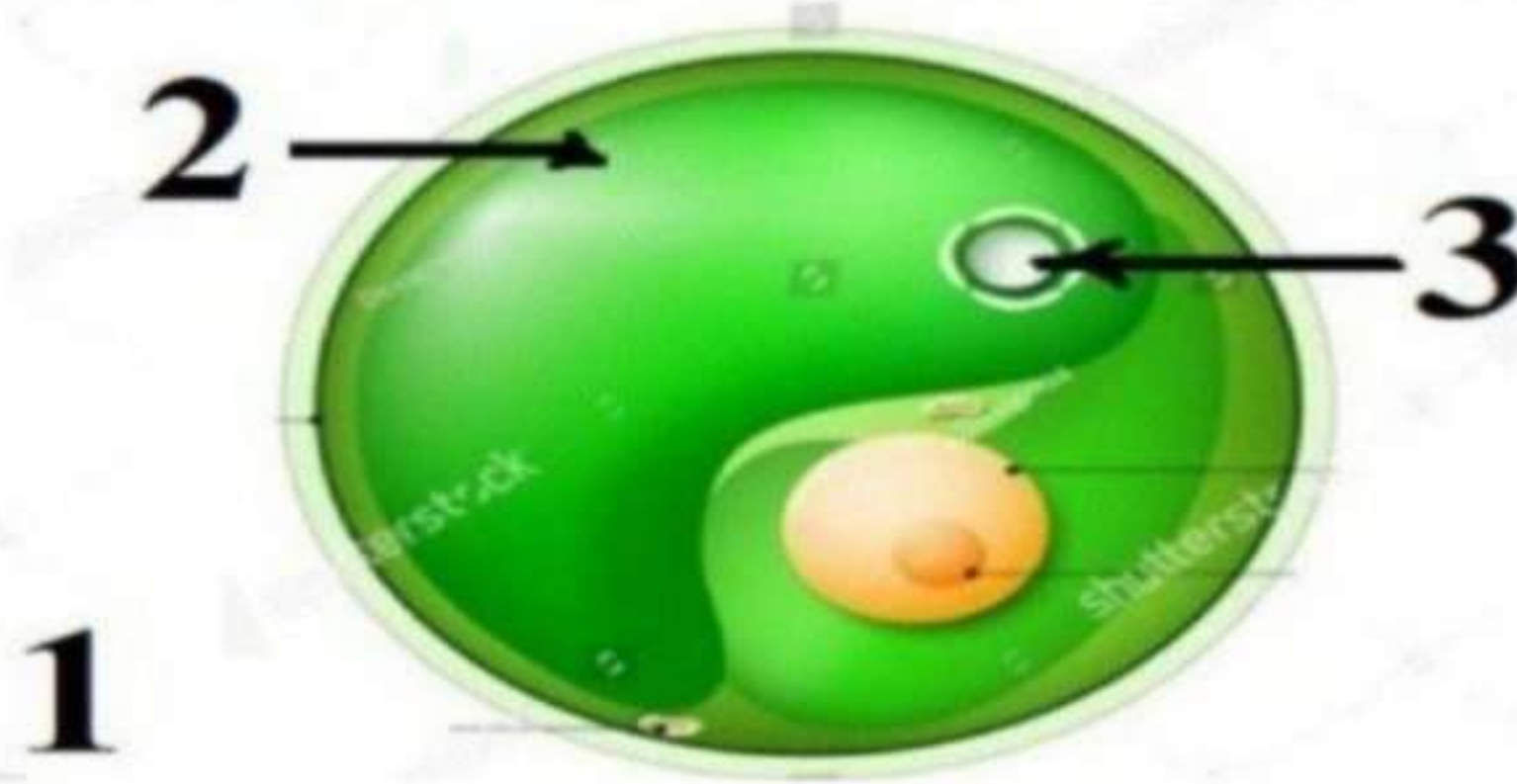
【34】 are fungi that produce zoosporic cells during life cycle.

- A. Mastigomycota
- C. Ascomycota

- B. Myxomycota
- D. Basidiomycota

 **Answer: A**

【35】 What type of organism is shown in the image ?



A. Multicellular algae
C. Fungus

B. Unicellular algae
D. Bacteria

💡 Answer: **B**

【36】 What is the main component of the cell wall of this organism ?

A. Chitin

B. Cellulose

C. Algin

D. Lignin

💡 Answer: **B**

【37】 What is the function of the structure labeled as number “3” in the image ?

A. Fat storage

B. Protein production

C. Water intake regulation

D. Starch storage

💡 Answer: **D**

【38】 What is the shape of the chloroplast in this organism ?

A. Spiral

B. Star - shaped

C. Cup - shaped

D. Plate - like

💡 Answer: **C**

【39】 can exhibit a variety of shapes .

- A. Pleomorphic bacteria
- C. Virus

- B. Fungi
- D. Archaea

 **Answer: A**

【40】 fungi obtain their food from dead and decaying matter.

- A. Parasites
- C. Saprotrophic

- B. Symbiosis
- D. Lichens

 **Answer: C**

【41】 algae can live at greater depths than other algae.

- A. Red
- B. Green
- C. Brown
- D. Blue green

 **Answer: A**

【42】 Motile bacteria can move by

- A. Pili
- B. Flagella
- C. Zoospore
- D. Gliding

 **Answer: B**

【43】 are Photosynthetically active and have cell wall .

- A. Bacteria
- C. Fungi

- B. Virus
- D. Phytoplankton

 **Answer: D**

【44】 Outside the cell, they behave like inert chemicals are called.....

- A. Fungi
- B. Algae
- C. Bacteria
- D. Virus

 **Answer: D**

【45】 is defined as RNA with same base sequence as the mRNA.

- A. Positive polarity
- C. Negative polarity

- B. Genetic material
- D. Capsid

 **Answer: A**

2 True or False:

【46】 The color of Rhodophyta (red algae) is due to the presence of Phycoerythrin & phycocyanin .

 Answer: **T**

【47】 Benthic algae float freely on water surface.

 Answer: **F**

【48】 Algin is obtained from the red algae: Gelidium & Gracillaria.

 Answer: **F**

【49】 Endosperm is haploid (n) in Angiosperms.

 Answer: **F**

【50】 Sporophyte of homosporous plants produces only one type of spores .

 Answer: **T**

【51】 In Pteridophytes , sporophytes are dominant.

 Answer: **T**

【52】 Vascular tissues are absent in Bryophytes .

 Answer: **T**

【53】 flowers and fruits are absent in Gymnosperms , Pteridophytes and Bryophytes.

 Answer: **T**

【54】 Solute is directly proportional to concentration of solution and this is directly proportional to osmotic pressure.

💡 Answer: T

【55】 The Lyophilic colloids are highly viscous than the Lyophobic colloids.

💡 Answer: T

【56】 Guttation is the process in which liquid water is forced out through Hydathodes on the leaf margins due to root pressure.

💡 Answer: T

【57】 Carbon dioxide enters the leaves through the stomata.

💡 Answer: T

【58】 Enzymes are consumed during the biochemical reactions they catalyze.

💡 Answer: F

【59】 Stomata present with high number on upper.

💡 Answer: F

【60】 The higher the temperature, Transpiration rate increased.

💡 Answer: T

【61】 The measure of the energy state of water is called water potential.

💡 Answer: T

【62】 Algae belong Kingdom “ monera “

 Answer: **F**

【63】 Lichens are symbiotic associations found between algae and Bacteria.

 Answer: **F**

【64】 Stomata are present in members of the phylum Hepatophyta.

 Answer: **F**

【65】 The male gametes in plants are called sperms (antherozoids) .

 Answer: **T**

【66】 Modification of plant structure occurs to increase the rate of Diffusion.

 Answer: **F**

【67】 Coenzymes are inorganic molecules, usually vitamins or made from vitamins.

 Answer: **F**

【68】 Electrophoresis is used to separate molecules based on their charge and size.

 Answer: **T**

【69】 The particle size in colloidal solution is smaller than the particle size in the true solution.

 Answer: **F**

【70】 Antheridium is the female sex organ in bryophytes and pteridophytes .

 Answer: **F**

【71】 Pteridophytes have vascular elements, and true roots , leaves and stems .

 Answer: **T**

【72】 Pollen grains are present in Pteridophytes.

 Answer: **F**

【73】 Asexual reproduction in most brown algae is by biflagellate zoospores.

 Answer: **T**

【74】 Diatoms reproduce by formation of auxospores.

 Answer: **T**

【75】 Gemma are produced during sexual reproduction.

 Answer: **F**

【76】 Endospores are structures formed in bacillus bacteria during unfavorable conditions.

 Answer: **T**

【77】 Diplococci cells divide in one plane and remain attached to form chains.

 Answer: **F**

3 **Mcq :**

【78】 are fungi without cell wall .

- A. Zygomycota
- C. Myxomycota

- B. Ascomycota
- D. Basidiomycota

 **Answer: C**

【79】 is the female sex organ in bryophytes and Pteridophytes.

- A. Gemma
- C. Antheridium

- B. Protonema
- D. Archegonium

 **Answer: D**

【80】 The colour of Rhodophyta is mainly due to the presence of.....

- A. Phycobilins
- C. Xanthophyll

- B. Fucoxanthin
- D. Chlorophyll

 **Answer: A**

【81】 Which group of the following does not belong to bryophytes ?

- A. Mosses
- C. Hornworts

- B. Ferns
- D. Liverworts

 **Answer: B**

【82】 can live in extreme environmental conditions.

- A. Algae
- C. Fungi

- B. Archaeobacteria
- D. Virus

 **Answer: B**

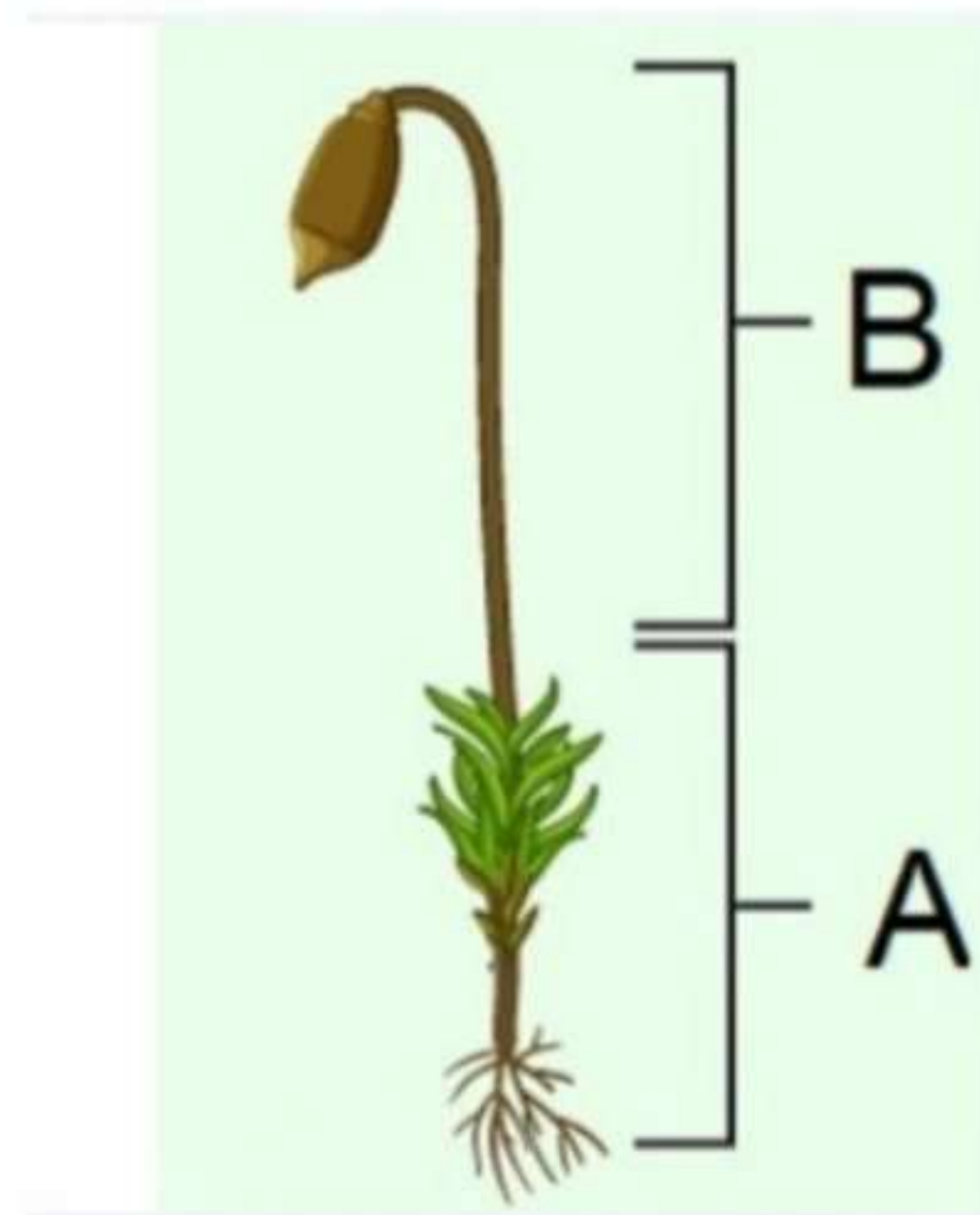
【83】 In algae, fusion between two similar gametes is called.....

- A. Oogamy
- C. Isogamy

- B. Anisogamy
- D. Heterogamy

 **Answer: C**

【84】 The plant shown belongs to



A. Gymnosperms
C. Mosses

B. Pteridophyta
D. Liverworts

💡 Answer: C

【85】 The marks “ A , B “ refers to

A. Sporophyte , Capsule
C. Gametophyte , Sporophyte

B. Leaves , Gametophyte
D. Rhizoids , Seta

💡 Answer: C

【86】 The mark “ A “ is

A. Absorbs water by roots
C. Non - Photosynthetic and dependent
D. Has true leaves

B. Photosynthetic and independent

💡 Answer: B

【87】 The mark “ B “ is

A. Absorbs water by roots
C. Non - Photosynthetic and dependent
D. Has true leaves

B. Photosynthetic and independent

💡 Answer: C

【88】 is the male sex organ in flower .

- A. Petal
- C. Sepal

- B. Pistil (carpel)
- D. Stamen

💡 **Answer: D**

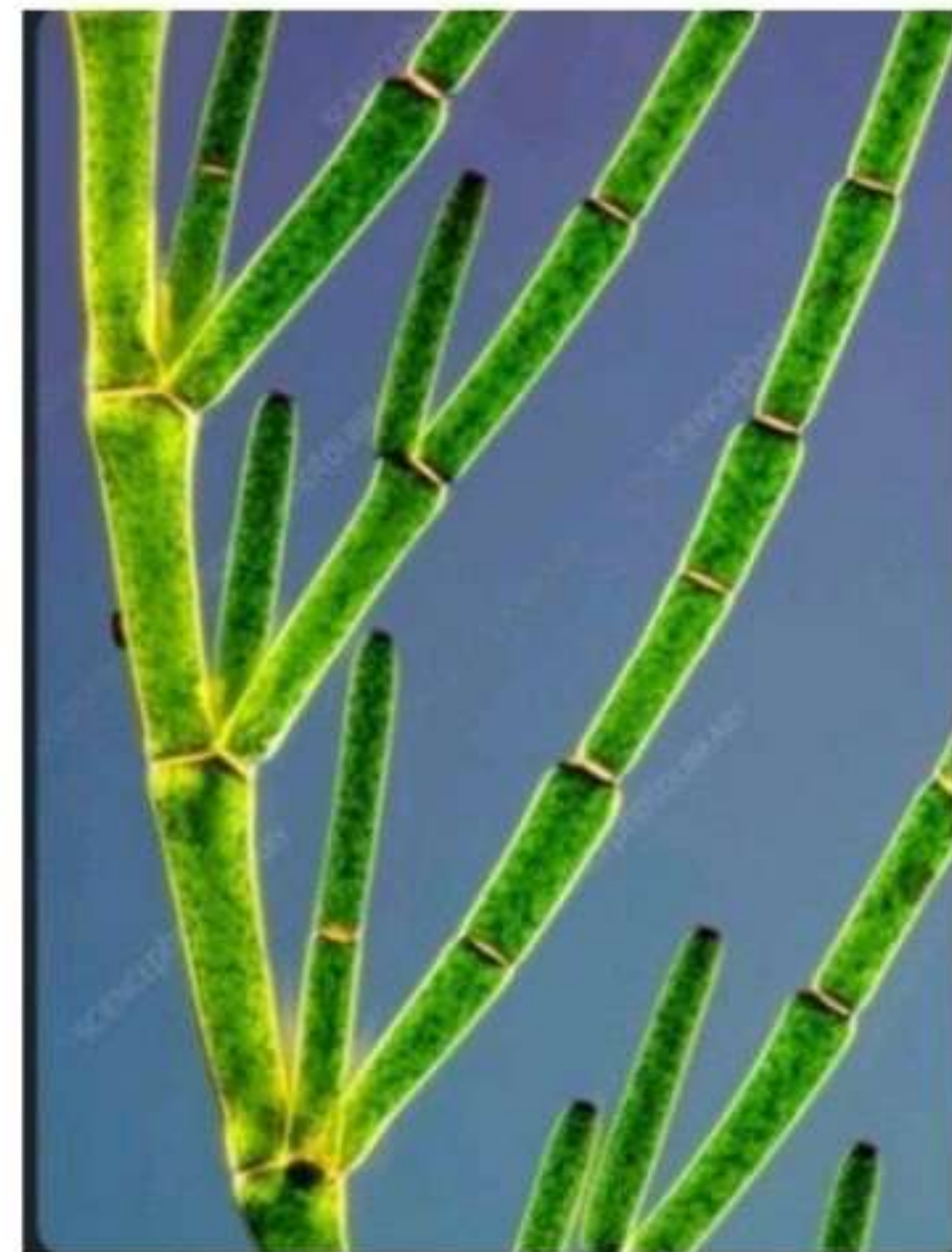
【89】 Viruses appear spherical in shape.

- A. Helical
- C. Complex

- B. Icosahedral
- D. Filament

💡 **Answer: B**

【90】 Can be classified as Thallus in algae



- A. Unicellular (motile) algae
- B. Multicellular (colony) algae
- C. Filamentous (simple) algae
- D. Filamentous (branched) algae

💡 **Answer: D**

【91】 The ascomycetes or sac fungi are characterized by the development of spores called

- A. ascospores
- C. Mastigomycota

- B. ascocarps
- D. Zoospore

💡 **Answer: A**

[92] Cell wall is made up of Chitin and Chitosan .

- A. Zygomycota
- C. Mastigomycota

- B. Ascomycota
- D. Zoospore

💡 Answer: A

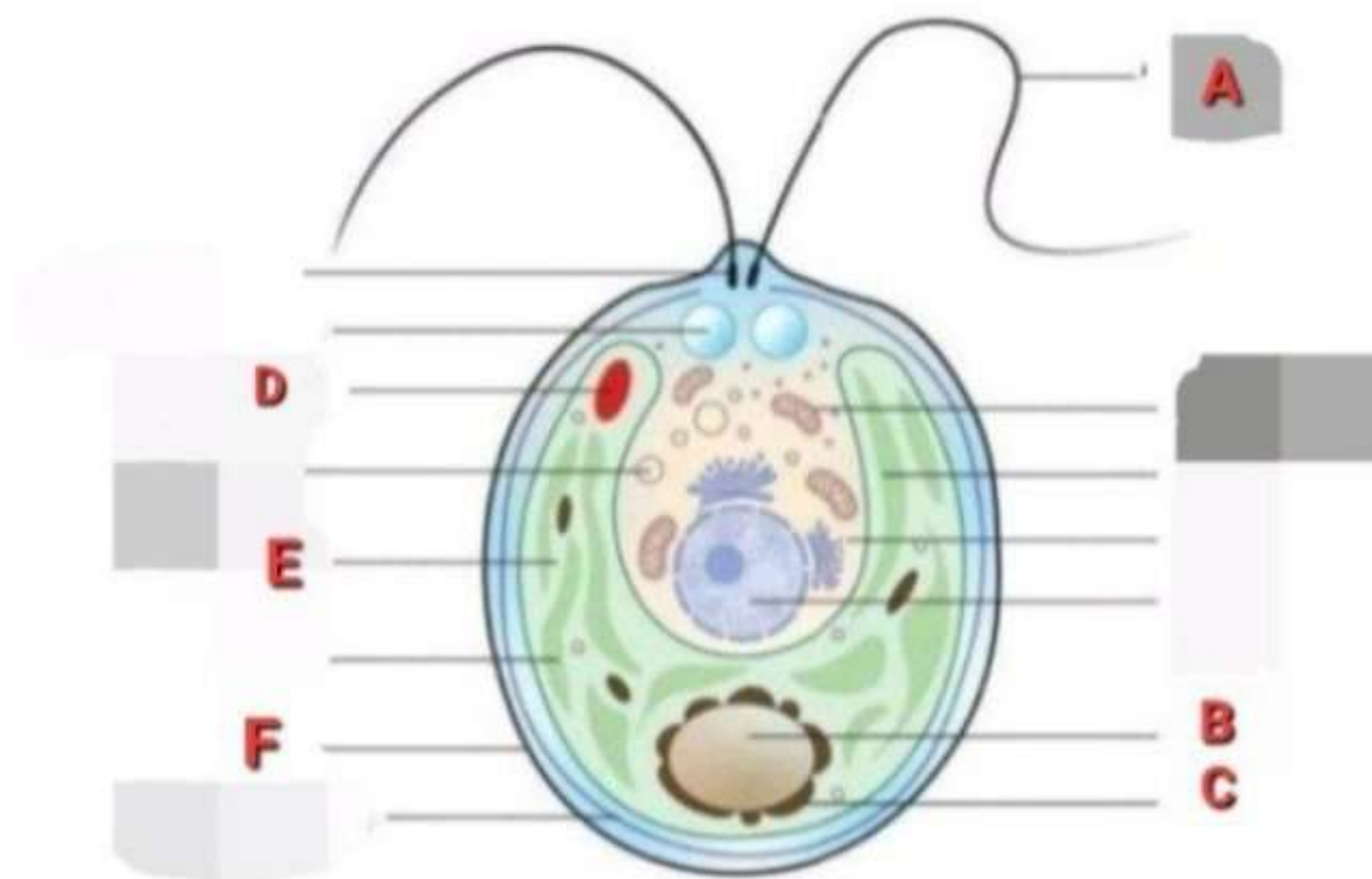
[93] a process of genetic Recombination in bacteria in which genes form a host cell .

- A. Conjunction
- C. Transferases

- B. Transduction
- D. Transformation

💡 Answer: B

[94] Can be classified as Thallus in algae



- A. Unicellular (Motile) algae
- B. Unicellular (non - motile) algae
- C. Filamentous (simple) algae
- D. Filamentous (branched) algae

💡 Answer: A

[95] The mark “ A” is

- A. Pyrenoid
- C. Flagellum

- B. Flagella
- D. Basal body

💡 Answer: C

【96】 Which of the following structures is primarily responsible for photosynthesis ?

- A. B B. D C. E D. F

 **Answer: C**

【97】 What is the characteristic shape of the mark “ E” ?

- A. Spiral B. Cup - shaped
C. Star - shaped D. Ribbon - like

 **Answer: B**

【98】 What happens to the enzyme after catalyzing a reaction ?

- A. It becomes denatured
B. It is consumed by the reaction
C. It remains unchanged and can catalyze another reaction
D. It becomes a substrate for the reaction

 **Answer: C**

【99】 Which factors directly affect diffusion pressure ?

- A. Concentration only B. Temperature only
C. Concentration and temperature D. Molecule size

 **Answer: C**

【100】 Which of the following can be separated by filtration ?

- A. True solution B. Emulsion
C. Suspension D. Colloidal soln

 **Answer: C**

【101】 Low atmospheric pressure the rate of transpiration.

- A. Increasing
B. Decreasing
C. No changes
D. None of these

 **Answer: A**

【102】 are enzymes that can catalyse structural changes within a molecule.

- A. Isomerases
- B. Lyases
- C. Hydrolases
- D. Oxidoreductases

 **Answer: A**

【103】 Which of the following processes occurs in the cytoplasm in both aerobic and anaerobic respiration ?

- A. Krebs cycle
- B. Electron transport chain
- C. Glycolysis
- D. Fermentation

 **Answer: C**

【104】 A membrane that allows the diffusion of solvent molecules only is a

- A. Permeable membrane
- B. Impermeable membrane
- C. Semipermeable membrane
- D. Selectively permeable membrane

 **Answer: C**

【105】 In plasma membranes, the hydrophilic heads of Phospholipids point towards

- A. the inside only
- B. the outside only
- C. both the inside and the outside
- D. the hydrophobic core of the membrane

 **Answer: C**

【106】 During the night, the exit of water from guard cells causes them to

- A. Become turgid and the stoma to open
- B. Become flaccid and the stoma to close
- C. Increase the rate of transpiration
- D. Increasing the rate of guttation

 **Answer: B**

【107】 The opening and closing of stomata are due to changes in

- A. The thickness of the cell wall of subsidiary
- B. The osmotic pressure of parenchyma cells
- C. The turgor pressure of guard cells
- D. The concentration of salts in vascular tissues

 **Answer: C**

【108】 Remove any toxic using the Golgi apparatus. This process is called

- | | |
|-------------------|----------------|
| A. Osmoregulation | B. Respiration |
| C. Secretion | D. Nutrition |

 **Answer: C**

【109】 What is the process in which molecules are separated based on size using a semi - permeable membrane ?

- | | |
|--------------------|--------------------|
| A. Adsorption | B. Electrophoresis |
| C. Ultrafiltration | D. Osmosis |

 **Answer: C**

【110】 Which of the following is an example of a colloidal solution in plants ?

- | | |
|-------------------|-------------|
| A. Pure water | B. Cell sap |
| C. Sugar solution | D. Oil |

 **Answer: B**

【111】 is the resistance of fluid to flow , and decrease with rises of temperature.

- | | |
|--------------|------------------|
| A. Viscosity | B. Dialysis |
| C. Gelatin | D. Electrophilic |

 **Answer: A**

【112】 Total energy yield from Anaerobic respiration equals.....

- A. 8 ATP
- C. 2 ATP

- B. 6 ATP
- D. 48 ATP

💡 Answer: C

【113】 The Irreversible increase in Permeability of plant cells occurs at

- A. Zero
- C. 50°C

- B. 40°C
- D. Any temperature

💡 Answer: C

【114】 In Krebs cycle the number of ATP molecules released from the Oxidation of one molecule of glucose is

- A. 20 molecules
- C. 40 molecules

- B. 30 molecules
- D. 72 molecules

💡 Answer: B

【115】 Specificity: The enzyme (Isomerase) will act on a particular optical isomer .

- A. Stereochemical
- C. Absolute

- B. Group
- D. Linkage

💡 Answer: A

4 True or False:

【116】 The gametophyte stage in the life cycle of porphyra is blade - like.

💡 Answer: T

【117】 Stomata present on upper epidermis.

💡 Answer: T

【118】 Double fertilization occurs in Angiosperms.

💡 Answer : T

【119】 Anabolism is the process of building complex molecules from simpler molecules and requires energy.

💡 Answer: T

【120】 The dominant generation in Pteridophytes is gametophyte.

💡 Answer: F

إلى اللقاء في المادة القادمة

سبحان الله وبحمده
سبحان الله العظيم