



BIOLOGY

BOOKS - SANTRA BIOLOGY (BENGALI ENGLISH)

PHYSIOLOGICAL PROCESS OF LIFE

Mcqs

1. Three green bacteria is

A. Bacillus

B. Azotobacter

C. Rhodospirillum

D. Clostridium

Answer:



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2. The main component of photosynthesizers is

A. Sunlight

B. RuBP

C. NADP

D. ADP

Answer:



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3. How many molecules of water used in photosynthesis

A. 10

B. 12

C. 5

D. 8

Answer:



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4. This is the chemical formula $C_{40}H_{56}O_2$ of

A. Carotene

B. Chl-a

C. Chl-b

D. Xanthophyll

Answer:



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5. The formation of ATP is called as

A. photolysis

B. photosynthesis

C. Photophosphorylation

D. energy currency

Answer:



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6. Photosystem-II involved in

A. Non-cyclic photosphorylation

B. cyclic photophosphorylation

C. photolysis

D. electron

Answer:



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7. Non-essential mineral is

A. *N*

B. *Mg*

C. *Al*

D. *Ca*

Answer:



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8. Which is indispensable for the growth of plants

- A. Essential elements
- B. Non-essential elements
- C. Toxic elements
- D. none of them

Answer:



9. Which is macronutrient

A. Mn

B. Cu

C. Mo

D. Mg

Answer:



10. Which is micronutrient

A. Zn

B. C

C. H

D. N

Answer:



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11. Water translocation occurs through

A. xylem

B. phloem

C. both a and b

D. none of them

Answer:



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12. The main site of transpiration is

A. cuticle

B. upper surface of leaf

C. stem

D. lower surface of leaf

Answer:



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13. Which process is considered a necessary evil

A. photosynthesis

B. respiration

C. transpiration

D. transport

Answer:



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14. Which one is semi-permeable membrane?

- A. Filter paper
- B. Egg membrane
- C. Plant cell wall
- D. Plasma membrane

Answer:



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15. Endosmosis occurs is

A. Hypotonic solution

B. Hypertonic solution

C. a & b both

D. none of them

Answer:



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16. The Chief respirator site of plant is

A. Leaf

B. Stem

C. Pneumatophore

D. root

Answer:



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17. Lung is the respirator organ of

A. Mammals unio

B. Cockroach crab

C.

D.

Answer:



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18. Which bacteria performs anaerobic respiration

A. Clostridium

B. Azotobacter

C. Thiobacillus

D. Lactobacillus

Answer:



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19. Aerobic respiration occurred in

A. plants

B. seeds

C. parasites

D. microorganisms

Answer:



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20. In anaerobic respiration how many moles of $NADH_2$ are utilized in other metabolic functions

A. 5 moles

B. 2 moles

C. 1 moles

D. 3 moles

Answer:



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21. An example of symbiotic plant

A. Cuscuta

B. Agaricus

C. Sundew

D. Lichen

Answer:



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22. The component of food which does not yield energy is

A. Carbohydrate

B. protein

C. fat

D. vitamin

Answer:



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23. Where are villi situated?

A. In kidney

B. In lung

C. In buccal cavity

D. In small intestine

Answer:



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24. Example of anabolism is

- A. Nutrition
- B. Excretion
- C. respiration
- D. none of them

Answer:



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25. Which produces antibody?

A. Monocyte

B. Lymphocyte

C. Neutrophil

D. Eosinophil

Answer:



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26. The universal recipient is

A. Group A

B. Group B

C. Group AB

D. group O

Answer:



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27. Which one of the following is not seen in the open type of circulatory system?

A. Artery

B. Haemocoel

C. Capillary

D. None of these

Answer:



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28. Which deoxygenated blood?

- A. Pulmonary vein
- B. Pulmonary artery
- C. all the artery
- D. none of these

Answer:



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29. Main function of WBC is to

A. Destroy bacteria

B. produce RBC

C. help in coagulation of blood

D. none of these

Answer:



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30. Which one is the organic part of blood?

A. Albumin

B. Fibrinogen

C. calcium

D. urea

Answer:



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31. Which one is the non-nitrogenous excretory product in plant?

A. Daturine

B. latex

C. reserpine

D. Caffeine

Answer:



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32. Which is the example of metanephros?

A. Bird

B. Fish

C. Amphibia

D. none of these

Answer:



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33. Abnormal constituents of urin is

A. Uric acid

B. Creatinine

C. Ketone bodies

D. Sodium

Answer:



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34. Accessory excretory organ in man is

A. Brain

B. Liver

C. pancreas

D. Testis

Answer:



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35. Which is indispensable for the growth of plants

- A. Essential elements
- B. Non-essential elements
- C. Toxic elements
- D. none of them

Answer:



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Fill In The Blanks

1. _____ is a secondary process in green plants.

A. Mn

B. Cu

C. Mo

D. Mg

Answer:



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2. End product of light reaction is _____.

A. Zn

B. C

C. H

D. N

Answer:



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3. _____ is the first stable compound of the dark reaction.



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4. _____ is an accessory components of the photosynthesis.



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5. Bacteriochlorophyll present in_____.



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6. _____ is the structural and functional substances of living beings.



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7. Without _____ plants can not complete their life cycle.



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8. _____ is maintained by macroelements.



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9. _____ is a permeable membrane.



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10. In _____ molecules move in single direction.



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11. _____ is exerted by the diffusing molecules.



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12. Transpiration is a _____ process.



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13. During respiration _____ stored in the food.



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14. Lactic acid fermentation takes place in bacterial cells like _____



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15. Final electron acceptor of anaerobic respiration is_____



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16. the respirator organ of cockroach is_____



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17. Accessory respirator organ found in_____.



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18. The major enzyme for digestion of proteins present in the stomach is _____.



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19. Small intestine in adult person is _____ meters long and _____ Cm in diameter.

A. xylem

B. phloem

C. both a and b

D. none of them

Answer:



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20. Digestion of ___ begins in mouth.

A. cuticle

B. upper surface of leaf

C. stem

D. lower surface of leaf

Answer:



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21. Pancreas produces _____ to neutralise the acidity in the duodenum coming from the stomach.

A. photosynthesis

B. respiration

C. transpiration

D. transport

Answer:



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22. Blood flows through ___ and ___ is open circulatory system.

A. Filter paper

B. Egg membrane

C. Plant cell wall

D. Plasma membrane

Answer:



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23. ____ Node may be regarded as a remnant of sinus venosus in mammalian heart.

A. Hypotonic solution

B. Hypertonic solution

C. a & b both

D. none of them

Answer:



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24. ____-prevents the bones from injury.



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25. Blood vessels consists of artery, vein and



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26. Blood group AB has no ___ in plasma.



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27. Terpentine is a ___ resin.



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28. _____ is used in paints.



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29. Source of nicotine is _____ of tobacco.



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30. Kidney is the _____ organ or vertebrate.



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31. The daily rate of formation of glomerular filtrate is _____ litres.



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True Or False

1. Chlorophyll molecules can convert solar energy into chemical energy.



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2. Light energy helps in the splitting up to water molecules.



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3. The chemical formula of carotene is $C_{40}H_{56}O_2$.



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4. The main component of light reaction is sunlight.



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5. Photosynthesis occurs in the mesophyll tissue of the leaf.



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6. The essential elements are directly involved in the metabolism of the plant.



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7. Carbon is a mineral element.



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8. Molybdenam is micronutrient.



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9. The main component of chlorophyll is C, H, O, N and Mg.



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10. Stomata is the chief site of transpiration of plants.



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11. Water stress produces gibberelic acid.



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12. Transporter proteins are called channel proteins.



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13. Parchment paper is permeable membrane.

A. Leaf

B. Stem

C. Pneumatophore

D. root

Answer:



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14. In case of Ceriops, breathing roots are present.

A. Mammals unio

B. Cockroach crab

C.

D.

Answer:



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15. The respiratory organ of fish is lung.

A. Clostridium

B. Azotobacter

C. Thiobacillus

D. Lactobacillus

Answer:



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16. Alveoli are the blind end of bronchioles.

A. plants

B. seeds

C. parasites

D. microorganisms

Answer:



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17. Reactions of glycolysis take place in the cytoplasm.

A. 5 moles

B. 2 moles

C. 1 moles

D. 3 moles

Answer:



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18. Stomach has very high pH.



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19. Ptyalin acts an mouth only.



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20. Pancreatic juice acts on stomach.



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21. Digestive enzymes are secreted in an inactive form in allimentary canal.



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22. Citric acid is a inorganic acid.



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23. Asafoetida is a gum resin.



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24. Flame cells are the excretory organs of flat worm.



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25. Turpentine is used for medicine.



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26. Ureter carry urine from the kidney to the urinary bladder.



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Very Short Answer Type

1. Where photosynthesis takes place?



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2. Name two green water algae.



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3. Name the main components of the photosynthesis.



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4. What is quanta?



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5. What is photophosphorylation?



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6. What are the by-products of photosynthesis?





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7. What is non-meral element?



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8. Name the non-essential minerals.



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9. Name several essential minerals.





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10. Give the examples of selectively permeable membrane.



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11. What is osmotic pressure.?



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12. Which cell organelle controlled the process of transpiration?



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13. What is lenticel?



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14. What are steps of cellular respiration?



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15. What is the chemical reaction of aerobic respiration?

A. Cuscuta

B. Agaricus

C. Sundew

D. Lichen

Answer:



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16. Name the bacteria, where lactic acid fermentation takes place?

A. Carbohydrate

B. protein

C. fat

D. vitamin

Answer:



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17. What is exhaling?

A. In kidney

B. In lung

C. In buccal cavity

D. In small intestine

Answer:



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18. what is pleural membrane?

A. Nutrition

B. Excretion

C. respiration

D. none of them

Answer:



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19. Which group of blood is donor?



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20. Name an animal which shows open type of circulation.



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21. Mention any one function of WBC.



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22. In which chamber of human heart the pulmonary artery opens?



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23. In which part of nephron does filtration take place?



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24. List any three organs in mammals which act as accessory excretory organs.



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25. Name the structural and functional units of the kidney.



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Short Answer Type Questions

1. What is photosynthesis?



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2. What are the components of the photosynthesis?



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3. Mention the role of water in photosynthesis.



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4. What is carbon assimilation?



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5. Define photolysis of water.



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6. What is calvin cycle?



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7. What is nutrition?



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8. What is nutrients?



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9. Define macroelements.



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10. Define microelements.



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11. What is transpiration?

A. Monocyte

B. Lymphocyte

C. Neutrophil

D. Eosinophil

Answer:



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12. Define osmosis?

A. Group A

B. Group B

C. Group AB

D. group O

Answer:



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13. What is ascent of sap?

A. Artery

B. Haemocoel

C. Capillary

D. None of these

Answer:



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14. What is exosmosis?

A. Pulmonary vein

B. Pulmonary artery

C. all the artery

D. none of these

Answer:



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15. mention two characteristic features of respiratory organs?

A. Destroy bacteria

B. produce RBC

C. help in coagulation of blood

D. none of these

Answer:



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16. What is bronchi?

A. Albumin

B. Fibrinogen

C. calcium

D. urea

Answer:



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17. Give two differences between anaerobic respiration and fermentation.



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18. What is muscular fatigue?



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19. What is aerobic respiration?



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20. What is metabolism?



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21. What is symbiont?



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22. what is BMR?



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23. What is balanced diet?



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24. Write two differences between saprophytic and symbiotic plants.



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25. What is Rh factor?



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26. What is closed circulation?



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27. Write any three differences between vein and artery.



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28. What is the functions of eosinophil ?



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29. What is double circulation?



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30. What is urine?



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31. What is excretion?



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32. What is juxtaglomerular apparatus?



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33. What is helium?



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Long Answer Type Questions

1. What is absorption and action spectra?



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2. Describe the light dependent phase of photosynthesis with proper diagrammatic illustration.



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3. Describe about the significance of photosynthesis.

A. Daturine

B. latex

C. reserpine

D. Caffeine

Answer:



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4. What are the role of sunlight and chlorophyll during photosynthesis?

A. Bird

B. Fish

C. Amphibia

D. none of these

Answer:



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5. Describe about the Calvin-cycle of photosynthesis.

A. Uric acid

B. Creatinine

C. Ketone bodies

D. Sodium

Answer:



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6. What are the general functions of essential mineral elements?

A. Brain

B. Liver

C. pancreas

D. Testis

Answer:



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7. Describe about the types of essential elements.



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8. Describe the role of osmosis.



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9. Describe the mechanism of ascent of sap.



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10. Describe about the external factors of transpiration.



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11. State about the significance of transpiration.



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12. What is glycolysis describe the reaction of glycolytic pathway.



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13. Describe the sequence of the reactions of krebs cycle. What are the significance of krebs cycle?



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14. What is electron transport system? What are the site of respiration?



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15. Give the significance of respiration.



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16. What is nutrition? Explain the autotrophic and heterotrophic nutrition in plants with one example of each.



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17. What is digesion? Mention the three parts of alimentary canal related to animal digestion and name any three glands associated with digestion.



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18. Name the proteolytic enzyme secreted from stomach, pancreas and small intestine. What happens to protein after digestion? What is villus? Mention its functions.





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19. Mention the sources and action of substrate of the following enzymes- (a)

Amylase

(b) Lipase (c) Pepsin

(d) Trypsin (e) sucrase.



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20. Define circulation. What are the importance of circulation? What are the

elements to be transmitted?



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21. What is open and closed circulation?

Discuss the open circulation in cockroach.



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22. Draw a mat diagram of the longitudinal section of human heart and label any form of its parts. Indicate the course of blood

circulation through heart in the diagram with arrows.



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23. Write the names of the different components of human blood. Discuss briefly the transport function of blood.



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24. Write the name of the four body fluids. Mention the location and functions of these body fluids.



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25. What is excretion. State its significance.



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26. Describe the characters and mechanism of plant excretion.



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27. Describe the internal structure of kidney with diagram.



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28. What is nephron? Describe the functions of its different parts.



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29. Describe the role of urine formation of nephron.



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