



BIOLOGY

BOOKS - S CHAND BIOLOGY (HINGLISH)

LIFE PROCESSES

Solved Examples

1. The kidneys in human beings are a part of the system for:

A. nutrition

B. respiration

C. excretion

D. transportation

Answer: C



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Exercise

1. Which is the basic requirement of living organisms for obtaining energy ?

A. Water

B. Food

C. Vitamin

D. Hormone

Answer: Food



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2. Which of the following is an autotroph ?

Green plant or Man

- A. man
- B. cow
- C. green plant
- D. mosquito

Answer: C

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3. Name two inorganic substance which are used by autotrophs to make food.

A. carbon dioxide

B. water

C. both A and B

D.

Answer: C



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4. What is the mode of nutrition in fungi ?

A. saprotrophic

B.

C.

D.

Answer: A



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5. Name one organism each having saprophytic, parasitic and holozic modes of nutrition.



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6. Name the porcess by which plants make food.



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7. In addition to carbon dioxide and water, state two other conditions necessary for the process of photosynthesis to take

place.



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8. Apart from sunlight and chlorophyll, what other things are required to make food by photosynthesis ?



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9. (a) Name a gas used in photosynthesis.

(b) Name a gas produced in photosynthesis.



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10. The leaves of a plant first prepare food A by photosynthesis. Food A then gets converted into food B. What are A and B ?



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11. Which substance is used to remove chlorophyll from a green leaf during photosynthesis experiments ?



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12. Why do we boil the leaf in alcohol when we are testing it for starch ?



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13. (a) Name the pigment in leaves which absorbs sunlight energy.

(b) What is the colour of this pigments ?



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14. Name the pigment which can absorb solar energy.



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15. Name the organelle of plant cells in which photosynthesis occurs



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16. Apart from carbon dioxide and water, name four other raw material which are needed by the plants



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17. Where is chlorophyll mainly present in a plant ?



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18. What is the name of those cells in the leaf of a plant which control the opening and closing of stomata ?



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19. Name an animal whose process of obtaining food is called phagocytosis

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20. All the animals can be divided into three groups on the basis of their eating habits. Name the three groups.

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21. What is the scientific name of the animals which are:

(i) only meat eaters?

(ii) only plant eaters?

(iii) both plant and meat eaters?

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22. Name the green pigment present in the leaves of a plant



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23. Arrange the following processes involved in the nutrition in animals in the correct order (in which they take place):

Assimilation, Egestion, Ingestion, Absorption, Digestion



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24. How does Amoeba engulf the food particle ?



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25. What substance enter into the food vacuole in Amoeba to break down the food?



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26. From which part of the body, undigested food is egested in Amoeba?



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27. Name a unicellular animal which uses cilia to move food particles into its mouth.



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28. Name the enzyme present in human saliva. What type of food material is diagedsted by this enzyme ?

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29. Which of the organs perform the following function in human ?

(i) Absorption of food

(ii) Absorption of water

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30. What moves the food in the digestive organs ?

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31. What is the other name of food pipe?



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32. What substance is mixed with food in the mouth during chewing by the teeth ?



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33. What is the name of tiny projections on the inner surface of small intestine which help in absorbing the digested food?



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34. In which part of the digestive system is water absorbed?



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35. What is the name of the opening in the human body through which undigested food is thrown out ?



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36. Where is digested food absorbed into blood in human body ?



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37. Name the biological catalysts which bring about chemical digestion of food.



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38. Fill the following blanks with suitable words:

(a) All green plants are.....

(b) All non-green plants and animals are.....

(c) Heterotrophs depend on and other..... for food

(d) Green plants use and to make food

(e) Iodine turns blue -black on reacting with



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39. (a) What is chlorophyll ? What part does chlorophyll play in photosynthesis ?

(b) (i) Which simple food is prepared first in the process of photosynthesis?

(ii) Name the food which gets stored in plants leaves.



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40. (a) What are autotrophs? Give one example of autotrophs.

(b) What are the conditions necessary for autotrophic nutrition?



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41. (a) What are heterotrophs ? Give one example of heterotrophs.

(b) What is the difference between autotrophic nutrition and heterotrophic nutrition ?



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42. (a) Define a nutrient. Name four important nutrients present in our food.

(b) What are the various types of heterotrophic nutrition ?



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43. (a) Photosynthesis converts energy X into energy Y. What are X and Y ?

(b) State the various steps involved in the process of photosynthesis



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44. Name one organism each having saprophytic, parasitic and holozic modes of nutrition.



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45. Define (i) saprophyte, and (ii) parasite. Name two saprophytes and two parasites.



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46. What substances are contained in gastric juice ? What are their functions?



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47. What substance are contained in pancreatic juice ? What are their functions ?



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48. (a) What is the role of hydrochloric acid in our stomach ?

(b) What is the function of enzymes in the human digestive system ?



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49. (a) Which part of the body secretes bile ? Where is bile stored ? What is the function of bile ?

(b) What is trypsin ? What is its function ?



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50. What are the functions of liver and pancreas in the human digestive system ?



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51. Match the organisms given in column I with the processes given in column II:

Column I		Column II	
(i)	Leech	(a)	Holozoic nutrition
(ii)	Amoeba	(b)	Autotrophic nutrition
(iii)	Mushroom	(c)	Parasitic nutrition
(iv)	Green plant	(d)	Saprophytic nutrition

A. (i) c (ii) a (iii) d (iv) b

B. (i) d (ii) a (iii) c (iv) b

C. (i) c (ii) b (iii) d (iv) a

D. (i) d (ii) a (iii) b (iv) c

Answer: A



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52. Name the following:

- (a) The process in plants which converts light energy into chemical energy.
- (b) Organisms that cannot prepare their own food.
- (c) Organisms that can prepare their own food
- (d) The cell organelle where photosynthesis occurs.
- (e) The cells which surround a stomatal pore
- (f) An enzyme secreted by gastric glands in stomach Which acts on proteins.



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53. Match the terms in column I with those in column II:

Column I	Column II
(i) Trypsin	(a) Liver
(ii) Amylase	(b) Gastric glands
(iii) Bile	(c) Pancreas
(iv) Pepsin	(d) Saliva



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54. (a) What is common for Cuscuta, ticks and leeches ?

(b) Name the substances on which the following enzymes act in the human digestive system:

9i) Trypsin (ii) Amylase (iii) Pepsin (iv) Lipase

(c) Why does absorption of digested food occur mainly in the small intestine ?



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55. (a) Why is small intestine in herbivores longer than in carnivores ?

(b) What causes movement of food inside the alimentary canal?



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56. (a) What a photosynthesis ?

(b) Write a chemical equation to show the process of photosynthesis in plants.

(c) Explain the mechanism of photosynthesis



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57. (a) Describe the process of nutrition in Amoeba. Draw labelled diagrams to show the various steps in the nutrition in Amoeba.

(b) What is the mode of nutrition in Amoeba known as ?

(c) What is the process of obtaining food by Amoeba called ?

What does it mean ?



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58. (a) Draw a labelled diagram of the human digestive system.

With the help of this diagram, describe the process of digestion of food in man (humans).

(b) Describe one way in which the small intestine is adapted for the absorption of digested food.

(c) What is the special name of the contraction and expansion

movement which pushes the food further in our digestive tract (or alimentary canal) ?



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59. (a) Describe the parts of our tooth with the help of a labelled diagram

(b) What is meant by dental caries ? How are they caused ?

(c) What is dental plaque? What harm can it do ? How can the formation of plaque be prevented ?



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60. (a) Name the main organs of the human digestive system.

Also name the associated glands

(b) How do carbohydrates, fats and proteins get digested in human beings ?



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61. Which of the following has the longest small intestine ?

- A. carnivore
- B. omnivore
- C. herbivore
- D. autotroph

Answer: C



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62. The process of obtaining food by Amoeba is known as :

A. dialysis

B. cytokinesis

C. phagocytosis

D. amoebiasis

Answer: C



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63. The organism having parasitic mode of nutrition is:

A. Penicillin

B. Plasmodium

C. Paramecium

D. Parrot

Answer: B



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64. One of the following organisms has a saprophytic mode of nutrition. This organism is:

A. mushroom

B. malarial parasite

C. leech

D. lice

Answer: A



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65. The length of small intestine in a human adult is about :



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66. The process of digestion of food in humans begin in:

A. Stomach

B. food pipe

C. mouth

D. small intestine

Answer: C



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67. The process of digestion in humans is completed in:

- A. oesophagus
- B. small intestine
- C. stomach
- D. large intestine

Answer: B



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68. In human digestive system, bile is secreted by:

- A. pancreas

B. liver

C. kidneys

D. stomach

Answer: B



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69. Two of the following organisms have a holozoic mode of nutrition. These organisms are:

A. Paramecium and Plasmodium

B. Plasmodium and Parakeet

C. human and amoeba

D. Paramecium and Parasite

Answer: C



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70. The autotrophic mode of nutrition requires :

- A. carbon dioxide and water
- B. chlorophyll
- C. sunlight
- D. all of the above

Answer: D



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71. The correct order of steps occurring in nutrition in animals is :

A. Ingestion → Absorption → Digestion → Assimilation → Egestion

B. Ingestion → Digestion → Assimilation → Absorption → Egestion

C. Ingestion → Digestion → Absorption → Assimilation → Egestion

D. Ingestion → Assimilation → Digestion → Absorption → Egestion

Answer: C



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72. In human digestive system, the enzymes pepsin and trypsin are secreted respectively by :

- A. pancreas and liver
- B. stomach and salivary glands
- C. pancreas and gall bladder
- D. stomach and pancreas

Answer: D



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73. When carrying out the starch test on a leaf, why is it important to boil the leaf in alcohol ?

- A. to dissolve the waxy cuticle

- B. to make the cells more permeable to iodine solution
- C. to remove the chlorophyll
- D. to stop chemical reactions in the cells

Answer: C



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74. Pancreatic juice contains enzymes which digest :

- A. proteins and carbohydrates only
- B. proteins and fats only
- C. fats and carbohydrates only
- D. proteins, fats and carbohydrates

Answer: D



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75. Which of the following is the correct statement regarding bile ?

- A. secreted by bile duct and stored in liver
- B. secreted by gall bladder and stored in liver
- C. secreted by liver and stored in bile duct
- D. secreted by liver and stored in gall bladder

Answer: D



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76. Where are protein first digested in the alimentary canal ?

A. small intestine

B. oesophagus

C. mouth

D. stomach

Answer: D



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77. The inner lining of stomach is protected by one of the following from hydrochloric acid. Choose the correct one

A. pepsin

B. mucus

C. saliva

D. bile

Answer: B



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78. Which part of alimentary canal receives bile from the liver?

A. oesophagus

B. small intestine

C. stomach

D. large intestine

Answer: B



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79. Which of the following component of our food is digested by an enzyme which is present in saliva as well as in pancreatic juice ?

A. proteins

B. fat

C. minerals

D. carbohydrate

Answer: D



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80. If the saliva is lacking in salivary amylase, then which of the following process taking place in the buccal cavity will be

affected ?

- A. proteins breaking down into amino acids
- B. starch breaking down into sugars
- C. fats breaking down into fatty acids and glycerol
- D. intestinal layer breaking down leading to ulcers

Answer: B



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81. Which of the following are the correct functions to two components of pancreatic juice trypsin and lipase ?

- A. trypsin digests proteins and lipase carbohydrates
- B. trypsin digests emulsified fats and lipase proteins

C. trypsin digests starch and lipase fats

D. trypsin digests proteins and lipase emulsified fats

Answer: D



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82. The oxygen liberated during photosynthesis by green plants comes from :

A. glucose

B. water

C. carbon dioxide

D. chlorophyll

Answer: B



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83. Which of the following is an incorrect statement ?

A. energy is essential for life processes

B. organisms grow with time

C. movement of molecules does not take place among cells

D. organisms must repair and maintain their body

Answer: C



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84. The internal energy (cellular energy) reserve in autotrophs is :

- A. proteins
- B. fatty acids
- C. glycogen
- D. starch

Answer: D



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85. Which of the following events does not occur in photosynthesis ?

- A. conversion of light energy into chemical energy
- B. reduction of carbon dioxide to carbohydrates
- C. oxidation of carbon to carbon dioxide

D. absorption of light energy by chlorophyll

Answer: C

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86. The opening and closing of the stomatal pores depends upon :

A. oxygen

B. water in guard cells

C. temperature

D. concentration of CO_2 in stomata

Answer: B

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87. Most of the plants obtain nitrogen from soil in the form of

A. proteins

B. nitrates and nitrites

C. urea

D. atmospheric nitrogen

Answer: B



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88. The first enzyme to mix with food in the digestive tract is:

A. pepsin

B. cellulose

C. amylase

D. trypsin

Answer: C



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89. Which of the following is the correct statement ?

A. heterotrophs synthesise their own food

B. heterotrophs utilize solar energy for photosynthesis

C. heterotrophs do not synthesise their own food

D. heterotrophs are capable of converting carbon dioxide and water into carbohydrates

Answer: C



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90. In which of the groups of organisms the food material is broken down outside the body and then absorbed ?

- A. Mushroom, Green plants, Amoeba
- B. Yeast, Mushroom, Bread mould
- C. Paramecium, Amoeba, Cuscuta
- D. Cuscuta, Lice, Tapeworm

Answer: B



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91. Which is the correct sequence of parts in human alimentary canal?

A. Mouth → Stomach → Small intestine →
Oesophagus → Large intestine

B. Mouth → Oesophagus → Stomach → Large
intestine → Small intestine

C. Mouth → Stomach → Oesophagus → Small
intestine → Large intestine

D. Mouth → Oesophagus → Stomach → Small
intestine → Large intestine

Answer: D



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92. When a person eats sugary food, then organisms A present in his mouth act on sugar to produce a substance B. The substance B first dissolves the calcium salts from the part C of the tooth and then from its middle part D forming holes E. These holes ultimately reach the part F in the lower part of tooth which contains nerves and blood vessels. The substance B irritates the nerves ending inside the tooth causing toothache.

- (a) What are (i) organisms A, and (ii) substance B ?
- (b) What are (i) part C, and (ii) part D, of tooth known as ?
- (c) By what name are the holes E in the tooth known ?
- (d) Name the part F of the tooth
- (e) What will happen if organisms A reach part F of the tooth ?



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93. If the teeth are not cleaned regularly, they become covered with a sticky yellowish layer W of food particles and bacteria. Since layer W covers the teeth, the alkaline liquid X secreted by glands Y inside the mouth cannot reach the teeth surface to neutralise the acid formed by the action of organisms Z on sugary food, and hence tooth decay sets in

- (a) What is W known as ?
- (b) What is (i) X, and (ii) Y ?
- (c) What are organisms Z ?
- (d) State one way of removing layer W from the teeth



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94. When a person puts food in his mouth, then teeth cut it into small pieces, chew and grind it. The glands A in the mouth

secrete a substance B which is mixed with the food by tongue.

The substance B contains an enzyme C which starts the digestion of food in the mouth. The slightly digested food from the mouth goes down a tube D. The special type of movements E in the walls of tube D push the food into stomach for further digestion. The stomach wall secretes gastric juice containing three substance F, G and H. One of the functions of F is to kill bacteria which may enters the stomach with food. The substance G protects the inside layer of stomach from the damaging effect of substance F whereas substance H is an enzyme for digestion.

The partially digested food then enters into small intestine for further digestion.

- (a) What is (i) gland A (ii) substance B, and (iii) enzyme C ?
- (b) Name the tube D.
- (c) What is the movement E known as ?
- (d) What are (i) F (ii) G, and (iii) D ?



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95. The partially digested food coming from the stomach of a person enters a long and narrow organ A in his body. The organ A receives the secretions of two glands : liver and secretes a greenish yellow liquid B which is normally stored in the organ C. Pancreas secretes pancreatic juice which contains three digestive enzymes D, E and F. The intestinal juice completes the process of digestion of food. The inner wall of organ A has million of tiny finger-like projections G which help in the rapid absorption of digested food into blood stream. The undigested part of food then passes into wider tube H which absorbs most of the water from undigested food. The last part of tube H called I stores this undigested food (or waste) for some time. The undigested food is then passed out through opening J as faeces in the process known as K.

(a) Name the organ A.

(b) Name (i) liquid B, and (ii) organ C

(c) What are the digestive enzymes D, E and F ?

(d) Name (i) tube H (ii) part I (iii) opening J, and (iv) process K



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96. A unicellular animal P having no fixed shape ingests a food particle by forming temporary finger-like projections Q. The food particle is engulfed with a little surrounding water to form a temporary stomach R inside it. The chemicals S from surrounding cytoplasm enter into R and break down food into small and soluble molecules by chemical reactions. The digested food is absorbed directly into cytoplasm by the process T. The undigested food is thrown out of the body by the rupture of a cell organelle U in a process called V.

(a) Name the unicellular animal P.

(b) What are (i) Q and (ii) R?

(c) Name (i) chemical S, and (ii) process T.

(d) Name (i) organelle U, and (ii) process V



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97. There are four organisms A, B, C and D. The organism A eats only the flesh of other animals as food. The organism B can eat grains, fruits and vegetables as well as meat and fish. The organism C can make the food itself from simple inorganic substances present in the environment by utilising sunlight energy. On the other hand, organism D eats only plants and their products as food.

(a) Which organism is (i) omnivore (ii) herbivore, and (iii) carnivore ?

(b) Which organism is an autotroph ?

(c) Which organism is/are heterotrophs(s) ?

(d) Which organism can be a producer ?

(e) Which organism is/are consumer (s)?

(f) Give one example each of organisms which could be like (i)

A (ii) B (iii) C, and (iv) D



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98. The organism A, B and C can obtain their food in three different ways. Organism A derives its food from the body of another living organism which is called its, D without killing it. The organism B takes in the solid food by the process of ingestion, digests a part of this food and throws out undigested food in the process called E. The organism C obtains its food from dead and decaying plants.

- (a) What is the mode of nutrition of (i) organism A (ii) organism B, and (iii) organism C ?
- (b) What is the organism like D called ?
- (c) Name the process E.
- (d) Give one example each of organisms like (i) A (ii) B, and (iii) C.
- (e) What is the general name of three modes of nutrition exhibited by organisms A, B and C ?



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99. An organism A which cannot move from one place to another, makes a simple food B from the substances C and D available in the environment. This food is made in the presence of a green coloured substance E present in organs F in the presence of light energy in a process called G. Some of

the simple food B also gets converted into a complex food H for storage purposes. The food H gives a blue-black colour with dilute iodine solution.

- (a) What is (i) organism A (ii) food B, and (iii) food H?
- (b) What are C and D ?
- (c) Name (i) green coloured substance E, and (ii) organ F.
- (d) What is the process G ?



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100. *X* is a wild animal which eats only the flesh of other animals whereas *Y* is a domestic animal which feeds mainly on green grass.

- (a) What are animals like *X* known as ?
- (b) What are animals like *Y* known as ?
- (c) Which animal, *X* or *Y*, has a longer small intestine ? Why ?

(d) Name one animal which is like X

(e) Name one animals which is like Y.



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101. Do all cells use oxygen to produce energy ?



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102. Name one substance which is produced in anaerobic respiration by an organism but not in aerobic respiration.



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103. Name one organism which can live without oxygen



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104. In which type of respiration, aerobic or anaerobic, more energy is released ?

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105. Name the substance whose build up in the muscles during vigorous physical exercise may cause cramps

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106. Which part of roots is involved in the exchange of respiratory gases ?

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107. Name the process by which plant parts like roots, stems, and leaves get oxygen required for respiration



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108. Name the pores in a leaf through which respiratory exchange of gases takes place.

- A. stomatal pore
- B. epidermal pore
- C. porins
- D. cuticle

Answer: A



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109. Name the area in a woody stem through which respiratory exchange of gases takes places

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110. What is the name of the extensions of the epidermal cells of a root which help in respiration ?

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111. Out of photosynthesis and respiration in plants, which process occurs:

(a) all the time ?

(b) Only at daytime ?



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112. Name the organs of breathing in fish



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113. Name an animal which absorbs oxygen through its moist skin



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114. Name an animal which depends on simple diffusion of gases for breathing

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115. Name two animals which breathe through gills

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116. The trachea divides into two tubes at its lower end. What is the name of these tubes ?

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117. Where does the blood absorb oxygen in the human body ?



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118. Name the red pigment which carries oxygen in blood



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119. Which gases are exchanged in your lungs ?



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120. Where in the lungs does gas exchange take place ?



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121. What is the name of tiny air-sacs at the end of smallest bronchioles in the lungs ?



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122. What is the other name of wind-pipe ?

A. Oesophagus

B. Trachea

C. Both A and B

D. None of the above

Answer: B



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123. What organs are attached to the two bronchi ?



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124. In the lungs :

(a) what substance is taken into the body ?

(b) what substance is removed from the body ?



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125. State whether the following statements are true or false:

(a) During respiration, the plants take CO_2 and release O_2

(b) Energy can be produced in cells without oxygen

(c) Fish and earthworm exchange gases during respiration in the same way.



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126. Fill in the following blanks with suitable words:

(a) The organs of respiration in man are the

(b) The actual exchange of gases takes place in the of the lungs.

(c) in the lungs provide a very large surface area for gaseous exchange.

(d) Yeast undergoes.... respiration whereas Amoeba undergoes..... respiration

(e) Gills are the breathing organs in.....



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127. Explain why, a land plant may die if its roots remain waterlogged for a long time



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128. What are the differences between aerobic and anaerobic respiration? Name some organisms that use the anaerobic mode of respiration



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129. Name the final product/products obtained in the anaerobic respiration, if it takes place :

(a) in a plant (like yeast)

(b) in an animal tissue (like muscles)



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130. Name the substance whose build up in the muscles during vigorous physical exercise may cause cramps



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131. Name the type of respiration in which the end products are:

(a) C_2H_5OH and CO_2

(b) CO_2 and H_2O

(c) Lactic acid

Give one example of each case where such a respiration can occur.



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132. Define breathing. State the differences between breathing and respiration

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133. What are the different ways in which glucose is oxidised to provide energy in various organisms ? Give one example of each.

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134. Explain why, when air is taken in and let out during breathing, the lungs always contain a residual volume of air.

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135. Explain why, it is dangerous to inhale air containing carbon monoxide



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136. Describe the process of respiration in Amoeba. State whether it is anaerobic respiration or aerobic respiration.



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137. State the three common features of all the respiratory organs like skin, gills and lungs.



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138. What would be the consequences of a deficiency of haemoglobin in our bodies?



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139. (a) What is meant by aquatic animals and terrestrial animals ?

(b) From where do the aquatic animals and terrestrial animals obtain oxygen for breathing and respiration ?



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140. Why do fish die when taken out of water ?



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141. Why is the rate of breathing in aquatic organisms much faster than in terrestrial organisms ?



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142. Name the energy currency in the living organisms .When and where is it produced ?



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143. Why do animals consume more energy as compared to plants



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144. Explain how, it would benefit deep sea divers if humans also had gills



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145. HUMAN RESPIRATORY SYSTEM



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146. (a) Give the main points of difference between respiration in plants and respiration in animals

(b) Describe the exchange of gases which takes place in the leaves of plant (a) during daytime, and (b) at night.

(c) Which contains more carbon dioxide: exhaled air or inhaled air? Why?



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147. (a) "Respiration is a vital function of the body". Justify this statement

(b) What is the main difference between aerobic respiration and anaerobic respiration ? Give one example of each.

(c) What type of respiration takes place (i) in yeast, and (ii) in humans ?



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148. (a) Why is diffusion insufficient to meet the oxygen requirements of large multicellular organisms like humans?

(b) What type of arrangement exists in the bodies of large animals to meet their oxygen requirements adequately ?

(c) What advantage a terrestrial animal has over an aquatic animal with regard to obtaining oxygen for respiration?

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149. Which of the following is not produced during anaerobic respiration in unicellular fungus?

A. C_2H_5OH

B. H_2O

C. CO_2

D. ATP

Answer: B

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150. One of the following organisms can live without oxygen of air. This organism is:

A. Amoeba

B. Yak

C. Yeast

D. Leech

Answer: C



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151. During respiration exchange of gases take place in

A. bronchi

B. alveoli

C. bronchioles

D. trachea

Answer: B



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152. In one of the following organisms, the gaseous exchange during respiration does not take place through cell membrane/skin. This organism is:

A. Electric eel

B. Leech

C. Earthworm

D. Amoeba

Answer: A



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153. Which of the following is correct for the process of anaerobic respiration ?

Carbon dioxide A lot of energy
always produced released

(c) Yes No

(d) Yes Yes

A. Carbon dioxide A lot of energy
 always produced released

(a) No Yes

B. Carbon dioxide A lot of energy
 always produced released

(b) No No

C. Carbon dioxide A lot of energy
 always produced released

(c) Yes No

- | | | |
|-----|-----------------|-----------------|
| | Carbon dioxide | A lot of energy |
| D. | always produced | released |
| (d) | Yes | Yes |

Answer: B



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154. Which of the following increase in muscle cells when they are lacking in oxygen ?

- A. carbon dioxide
- B. lactose
- C. lactic acid
- D. uric acid

Answer: C



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155. Internal respiration may be defined as:

- A. breathing in and releasing of oxygen in the tissue
- B. the oxidation of food substances to release energy
- C. the building up (synthesis) of complex substances
- D. getting rid of carbon dioxide that would accumulate in the tissues.

Answer: B



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156. When air is blown from mouth into a test - tube containing lime water, the lime water turned milky due to the presence of

A. oxygen

B. carbon dioxide

C. nitrogen

D. water vapour

Answer: B



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157. Which is the correct sequence of air passage during inhalation?

A. nostrils → larynx → pharynx → trachea → lungs

B. nasal passage → trachea → pharynx → larynx →
alveoli

C. larynx → nostrils → pharynx → lungs

D. nostrils → pharynx → larynx → trachea → alveoli

Answer: D



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158. Lack of oxygen in muscles often leads to cramps among cricketers. This results due to

A. ethanol

B. carbon dioxide

C. acetic acid

D. lactic acid

Answer: D



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159. Which of the following statements (s) is (are) correct ?

(i) Pyruvate can be converted into ethanol and carbon dioxide by yeast

(ii) Fermentation takes place in aerobic bacteria

(iii) Fermentation takes place in mitochondria

(iv) Fermentation is a form of anaerobic respiration

A. (i) and (iii)

B. (ii) and (iv)

C. (i) and (iv)

D. (ii) and (iii)

Answer: C



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160. Which of the following statements are true about respiration ?

(i) during inhalation, ribs move inward and diaphragm is raised

(ii) the gaseous exchange takes place in the alveoli

(iii) haemoglobin has greater affinity for carbon dioxide than oxygen

(iv) alveoli increase surface area for the exchange of gases

A. (i) and (iv)

B. (ii) and (iii)

C. (i) and (iii)

D. (ii) and (iv)

Answer: D



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161. Energy currency (reservoir) of the cells is

A. DTP

B. PDP

C. ATP

D. DDT

Answer: C



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162. The two organisms which breathe only through their moist skin are

- A. fish and frog
- B. frog and earthworm
- C. leech and earthworm
- D. fish and earthworm

Answer: C



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163. One of the following animals does not use tracheae as the respiratory organs. This animal is:

- A. grasshopper
- B. prawn
- C. mosquito
- D. cockroach

Answer: B



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164. The photosynthesis in a plant is not taking place during the day time if the plant is releasing:

- A. water vapour

B. oxygen

C. carbon dioxide

D. all the above

Answer: C



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165. The breathing and respiration in woody stem of a plant takes place through:

A. root hair

B. lenticels

C. closed stomata

D. open stomata

Answer: B



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166. One of the following organisms does not depend on simple diffusion of gases for breathing and respiration. This organism is:

A. Amoeba

B. Prawn

C. Planaria

D. Bryophyllum

Answer: B



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167. During marathon, we sometimes get painful contractions of leg muscles due to the accumulation of one of the following in leg muscles. This is:

- A. carbon dioxide
- B. alcohol
- C. lactose
- D. lactic acid

Answer: D



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168. In cockroaches, air enters the body through:

- A. lungs

B. gills

C. spiracles

D. skin

Answer: C



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169. A, B and C are three living organisms. The organism A is a unicellular fungus which can live without air. It is used in the commercial production of an organic compound P from molasses. The organism B is a unicellular animal which lives in water and feeds and moves by using pseudopodia. It breathes through an organelle Q. The organism C is an tiny animal which acts as a carrier of malarial parasite. It breathes and respire through a kind of tiny holes R and air-tubes S in its

body.

(a) What are organisms (i) A (ii) B, and (iii) C ?

(b) Name (i) P (ii) Q (iii) R, and (iv) S

(c) Which organism/organisms undergo aerobic respiration ?

(d) Which organism/organisms undergo anaerobic respiration ?



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170. There are five animals P, Q, R, S and T. The animal P always lives in water and has gills for breathing. The animal Q can stay in water as well as on land and can breathe both, through moist skin and lungs. The animal R lives in soil and breathes only through its skin. The animal S lives on land and breathes through spiracles and tracheae. And animal T lives in water and breathes through its cell membrane.

- (a) Which of the animals could be Amoeba ?
- (b) Which of the animals could be frog ?
- (c) Which animal could be fish ?
- (d) Which animal could be grasshopper?
- (e) Which animal could be earthworm ?



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171. Some sugar solution is taken in a test-tube and a little of substance X in powder form is added to it. The mouth of test-tube is closed with a cork and allowed to stand for sometime. On opening the cork, a characteristic smell of substance Y is obtained and a gas Z is also observed to be formed. The gas Z extinguishes a burning matchstick.

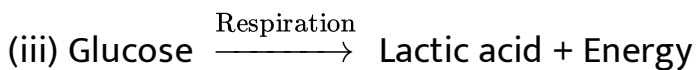
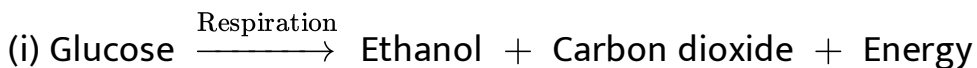
- (a) What could be (i) X, (ii) Y, and (iii) Z?
- (b) What is the process of converting sugar into substance Y

by the action of X known as ?

(c) What type of respiration is exhibited by X in the above process ?

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172. Consider the following chemical reactions which take place in different organisms/tissues under various conditions :



(a) Name one organism which respire according to equation

(i) above

(b) Name one organism which respire according to equation

(ii) above

(c) When and where does respiration represented by equation

(iii) above take place ?

(d) Which equation/equation represent aerobic respiration ?

(e) Which equation/equations represent anaerobic respiration ?

(f) Which of the above reactions produces the maximum amount of energy ?



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173. When a person breathes in air, the air enters into his body through an organ A having two holes B in it. The air then passes through pharynx and larynx and enters into a tube C. The tube C divides into two smaller tubes D at its lower end. The two smaller tubes are attached to two respiratory organs E. Each smaller tube divides inside the organs E to form a large number of still smaller tubes called F. The smallest tubes F

have air-sacs G at their ends in which gaseous exchange takes place in the body of the person. What are A, B, C, D, E, F and G?



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174. An organism X having breathing organs A lives on land. When organism X goes under water, it cannot survive for a long time unless carrying an oxygen cylinder. On the other hand, the organism Y having breathing organs B always lives in water and if taken out of water, it dies after a short while. A third organism Z having breathing organs C and D which lives on the banks of ponds, lakes and rivers can survive on land as well as in water equally well.

- (a) What could organism X be? Name the breathing organs A.
- (b) What could organism Y be? Name the breathing organs B.
- (c) What could organism Z be ? Name the breathing organs C

and D

(d) Out of X, Y and Z, which organism is (i) amphibian, (ii) aquatic, and (iii) terrestrial ?

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175. Name the complex tissue which helps in :

- (a) Conduction of water and minerals
- (b) Conduction/transport of food.

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176. What substance/substances are transported in plants by:

- (a) xylem vessels and tracheids?
- (b) sieve tubes (or phloem) ?

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177. Which organ acts as a pump in the circulatory system ?



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178. Veins and arteries carry blood. Which of these carry blood:

(a) away from the heart ?

(b) back to the heart?



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179. Where does the blood absorb oxygen in the human body ?



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180. What stops blood from flowing backwards through the heart ?



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181. Name (i) largest artery, and (ii) largest vein, in our body.



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182. What gaseous waste products are excreted by plants ?



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183. Where is the dirty blood in our body filtered ?



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184. DIALYSIS : ARTIFICIAL KIDNEY



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185. From the following terms, choose one term which includes the other four:

Plasma, Platelets, Blood, RBC, WBC



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186. What are the components of the transport system in highly organised plants?



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187. Out of xylem and phloem, which one carries materials:

(a) upwards as well as downwards?

(b) only upwards?



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188. Name two liquids which help in the transport of substances in the human body.



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189. What is the other name of main vein ?



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190. Name the conducting tissue of plants which is made of sieve tubes alongwith companion cells



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191. Name the conducting tissue in plants which is made of (a) living cells, and (b) dead cells



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192. State the terms used for the transport of food from leaves to other parts of plant



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193. Which process in a plant is accomplished by utilising energy from ATP : transport of water and minerals or transport of food ?



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194. Name a waste gas released by the plant (a) only during the day time, and (b) only during the night time



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195. Name one animal having single circulation of blood and another having double circulation



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196. State whether the following statements are true or false:

(a) Some organisms store wastes in body parts

(b) The value of systolic pressure is always lower than that of diastolic pressure



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197. Name the two parts of a plant through which its gaseous waste products are released into the air



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198. What happens to the glucose which enters the nephron tubule alongwith the filtrate ?



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199. Name the two waste products of the human body which are produced in the body cells

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200. What is the role of glomerulus in the kidney ?

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201. What is the other name of 'high blood pressure'?

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202. Fill in the following blanks with suitable words :

(a) Gums and resins are the Products of plants

(b) Bowman's capsule and tubule taken together make a

(c) The organs which extract the nitrogenous wastes from the blood are.....

(d) The extracellular fluid which always flows from body tissues to the heart is called

(e) The blood cell make antibodies whereas blood cells help in respiration



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203. What is xylem tissue ? Name the two kinds of cells in xylem tissue. State whether these cells are living or dead.



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204. What is phloem tissue ? Phloem contains two types of cells joined side by side. Name these two types of cells. State whether these cells are living or dead.



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205. (a) What is transpiration ?

(b) What do you mean by 'translocation' with respect to transport in plants ?

(c) Which plant tissue is involved in translocation: xylem or phloem ?



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206. (a) Draw a labelled diagram of (i) a xylem vessel, and (ii) a sieve tube (or phloem)



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207. Match the terms in column I with their uses in column II

Column I

Column II

- | | |
|-------------------------|-----------------------------------|
| (i) Heart | (a) Pipes for transport in humans |
| (ii) Arteries and Veins | (b) Clotting of blood |
| (iii) Xylem vessels | (c) Pumping organ |
| (iv) RBC | (d) Water transport in plants |
| (v) Platelets | (e) Carrier of oxygen |



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208. Define excretion. Name the excretory unit of a kidney



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209. (a) What job is done by the kidneys ?

(b) What do kidneys excrete ?

(c) What is the name of the tubes which connect the kidneys to bladder ?

(d) What does the bladder in our body do ?



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210. Why do some people need to use a dialysis machine ?

What does the machine do ?



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211. What is the liquid part of the blood called ? What is the function of platelets in the blood ?



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212. (a) How many types of blood vessels are there in the human body ? Name them

(b) Why does the heart need valves ?



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213. A dialysis machine contains long tubes coiled in a tank containing dialysing solution :

(i) Of what substance are the tubes made ?

(ii) What does the dialysing solution contain ?

(iii) Name the main waste which passes into the dialysing solution



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214. State the differences between artery, vein and capillary



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215. (a) What are the upper parts of the heart called ?

(b) What are the lower parts of the heart called ?

(c) What is the name of blood vessels which connect arteries to veins ?

(d) (i) Which side of the heart pumps blood into the lungs ?

(ii) Which side of the heart pumps blood into entire body (except the lungs) ?



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216. (a) What are the methods used by plants to get rid of their waste products ?

(b) How are waste products excreted in Amoeba ?



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217. (a) What is lymph ? State two major functions of lymph

(b) What is meant by saying that the blood pressure of a person is 120/80 ?



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218. What is hypertension ? Why is it caused ? What harm can it do ?



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219. With which human organ system (or human system) are the following associated ?

(i) vena cava (ii) glomerulus (iii) alveoli (iv) villi



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220. What is meant by 'systolic pressure' and 'diastolic pressure' ? What are their normal values ?



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221. (a) What is meant by 'heart beat' ? What is the usual heart beat rate at rest ?

(b) What change occurs in heart beats if a person runs for a while ? Why ?



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222. (a) What is blood ? Why is it red ?

(b) State the functions of blood in our body.

(c) Name a circulatory fluid in the human body other than blood.



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223. (a) What is meant by human circulatory system ? Name the organs of the circulatory system in human

(b) Draw a diagram of the human heart and label its parts

(c) What is meant by the terms 'single circulation' and 'double circulation' ?



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224. Describe the working of human blood circulatory system with the help of a suitable diagram which shows all the steps involved.



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225. (a) Name the red pigment which carries oxygen in the blood

(b) Why is it necessary to separate oxygenated and deoxygenated blood in mammals and birds ?

(c) How many chambers are there in the heart of : (i) an amphibian, (ii) a mammals, and (ii) a fish ?

(d) Describe the circulatory system in a fish.



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226. (a) What is lymphatic system ? What are its functions ?

(b) What the main pressure ? What are the two factors used to express the blood pressure of a person ?

(c) name the main nitrogenous waste in the human blood.

How is it removed from the blood ?



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227. (a) Name the various organs of the human excretory system

(b) Draw a neat labelled diagram of the human excretory system

(c) What is the function of excretory system in humans ?



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228. (a) Describe the mechanism of urine formation in human excretory system. Draw a labelled diagram to illustrate your answer.

(b) where is urine carried through ureters ?

(c) What is urethra ?



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229. (a) What is meant by dialysis ? What type of patients are put on dialysis ?

(b) Explain the principle of dialysis with the help of a labelled diagram ?



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230. (a) Why is transport of materials necessary in an organism (plant or animals) ?

(b) What is the need of special tissues or organs for transport of substances in plants and animals ?

(c) How are water and minerals transported in plants ?

(d) How is food transported in plants ?



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231. One of the following does not have a nucleus. This one is:

- A. red blood cell
- B. white blood cell
- C. guard cell
- D. epidermal cell

Answer: A



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232. The component of blood which makes chemicals known as antibodies is :

A. platelets

B. white blood cell

C. red blood cells

D. plasma

Answer: B



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233. An animals in which the oxygenation of blood does not take place in the lungs is :

A. cow

B. fish

C. frog

D. fox

Answer: B



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234. Which of the following carries substances upwards as well as downwards in a plant ?

A. xylem

B. companion cells

C. phloem

D. tracheids

Answer: C



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235. One of the following is not a constituent of blood. This one is:

- A. red blood cell
- B. white blood cell
- C. sieve plates
- D. platelets

Answer: C



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236. If a patient is put on dialysis, he is most likely suffering from a severe ailment of the

A. circulatory system

B. respiratory system

C. excretory system

D. digestive system

Answer: C



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237. Water absorption through roots can be increased by keeping the potted plants

A. in the shade

B. in dm light

C. under the fan

D. covered with a polythene bag

Answer: C

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238. A blood vessel which carries blood back to the heart is :

A. artery

B. vein

C. capillary

D. platelet

Answer: B

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239. Blood is pumped from the heart to the entire body by the:

A. lungs

B. ventricles

C. atria

D. nerves

Answer: B



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240. The blood leaving the tissues becomes richer in

A. carbon dioxide

B. water

C. haemoglobin

D. oxygen

Answer: A



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241. What prevents backflow of blood inside the heart during contraction ?

A. thick muscular walls of ventricles

B. valves

C. thin walls of atria

D. all of the above

Answer: B



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242. Choose the correct path of urine in our body

- A. kidney → ureter → urethra → bladder
- B. kidney → bladder → urethra → ureter
- C. kidney → ureter → bladder → urethra
- D. bladder → kidney → ureter → urethra

Answer: C



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243. In which of the following vertebrate group/groups, heart does not pump oxygenated blood to different parts of the

body ?

- A. pisces and amphibians
- B. amphibians and reptiles
- C. amphibians only
- D. pisces only

Answer: D



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244. Which vein brings clean blood from the lungs into the heart ?

- A. renal vein
- B. pulmonary vein

C. vena cava

D. hepatic vein

Answer: B



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245. Which blood vessel does not carry any carbon dioxide ?

A. pulmonary artery

B. vena cava

C. hepatic vein

D. pulmonary vein

Answer: D



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246. It has been found that people living in very high mountains have many more red corpuscles in their blood than people living in plains. Which one of the following best accounts for this phenomenon ?

- A. the cold climate stimulates the production of red corpuscles to keep the body warm
- B. people of high mountains breathe more quickly
- C. the low air pressure requires more red corpuscles to supply the body cells with oxygen.
- D. the low air pressure in high mountains speeds up the blood circulation so that more red corpuscles are needed.

Answer: C



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247. The phloem tissue in plants is responsible for the transport of :

- A. water
- B. water and minerals
- C. sugar
- D. all of the above

Answer: C



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248. Which of the following has a three-chambered heart ?

A. pigeon

B. lizard

C. fish

D. lion

Answer: B



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249. In which of the following are the largest amount of nitrogen excreted from a mammalian body ?

A. breath

B. sweat

C. urine

D. faeces

Answer: C



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250. Which one of the following has cytoplasm but no nucleus

:

A. xylem vessel

B. sieve tube

C. tracheid

D. companion cell

Answer: B



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251. The process of carrying food from the leaves to other parts of a plant is called

- A. transpiration
- B. transportating
- C. translocation
- D. transformation

Answer: C



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252. Which of the following is the only conducting tissues in non-flowering plants ?

- A. xylem vessels
- B. sieve tube
- C. companion cells
- D. tracheids

Answer: D



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253. Which of the following helps in the upward movement of water and dissolved minerals from the roots to the leaves through the stem ?

- A. transportation
- B. translocation
- C. tropic movement
- D. transpiration

Answer: D



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254. Which one of the following does not have valves ?

- A. heart
- B. arteries
- C. capillaries
- D. veins

Answer: C



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255. Which of the following is accomplished in a plant by utilising the energy stored in ATP ?

- A. transport of food
- B. transport of water and minerals
- C. transport of oxygen
- D. transport of water, minerals and food

Answer: A



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256. Coagulation of blood in a cut or wound is brought about by :

- A. plasma
- B. platelets
- C. WBC
- D. RBC

Answer: B



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257. The blood vessel which carries oxygenated blood from the lungs to the heart is :

- A. main artery

B. pulmonary artery

C. main vein

D. pulmonary vein

Answer: D



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258. The instrument for measuring blood pressure is called :

A. manometer

B. sphygmomanometer

C. barometer

D. potentiometer

Answer: B



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259. The substance which is not reabsorbed into the blood capillaries surrounding the tubule of a nephron is mainly :

- A. glucose
- B. amino acid
- C. urea
- D. water

Answer: C



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260. The procedure of cleaning the blood of a person by using a kidney machine is known as :

- A. ketolysis
- B. hydrolysis
- C. dialysis
- D. photolysis

Answer: C



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261. The excretory organs in an earthworm are :

- A. nephridia

B. nephrons

C. raphides

D. ureters

Answer: A



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262. The cells in our blood which destroy disease-causing germs, are:

A. platelets

B. skin cells

C. RBCs

D. WBCs

Answer: D



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263. The wave of expansion of an artery when blood is forced into it is called

- A. flow
- B. heart beat
- C. pulse
- D. ticking

Answer: C



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264. In autotrophs, water is transported through :

A. root hair

B. phloem

C. stomata

D. xylem

Answer: D



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265. An animals having double circulation in a three-chambered heart is :

A. fish

B. snake

C. deer

D. sparrow

Answer: B



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266. The transport system in plants consists of two kinds of tissues X and Y. The tissue X is made up of living cells and consists of two components A and B. The component A has tiny pores in its end walls and containing only cytoplasm but no nucleus. On the other hand, component B has cytoplasm as well as nucleus. The tissue Y is made up of dead cells and consists of two components C and D. The component C has open ends whereas component D does not have and consists of two components C and D. The component C has open ends

whereas component D does not have open ends. In flowering plants, either only C or both C and D transport water but D is the only water conducting tissue in non-flowering plants.

(a) What is (i) tissue X (ii) component A, and (iii) component B ?

(b) What is (i) tissue Y (ii) component C, and (iii) component D ?



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267. Water and dissolved minerals get into the root hair of a plant by a process called A and enter the conducting tissue B. The C helps the water and dissolved minerals to move up through the tissue B in roots and stem, and reach the leaves of a plant. In the leaves food is made by a process D. This food is then transported to all the parts of a plant through tissue E.

The process of distributing food made in the leaves to all the parts of the plant is called F.

(a) What are (i) A (ii) B (iii) C (iv) E, and (iv) F ?

(b) Which tissue is made up of living cells : B or E ?

(c) Name one substance (other than oxygen) which is transported by tissue A in the human body.

(d) Which two components of tissue A are the cells without nucleus ?

(e) Name any two organisms (animals) which do not have liquid like A in their body.



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268. The liquid connective tissue A circulates in our body continuously without stopping. This tissue contains a pigment B which imparts it a colour C. The tissue A consists of four

components D, E, F and G. The component D fights infection and protects us from diseases. The component E helps in the clotting of tissue A if a person gets a cut. The component F is a liquid which consists mainly of water with many substances dissolved in it and component G carries oxygen from the lungs to all the parts of the body.

(a) What is (i) tissue A (ii) pigment B, and (iii) colour C ?

(b) Name (i) D (ii) E (iii) F, and (iv) G.

(c) Name one substance (other than oxygen) which is transported by tissue A in the human body

(d) Which two components of tissue A are the cell without nucleus ?

(e) Name any two organism (animals) which do not have liquid like A in their body.



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269. The human body has an organ A which acts as a double pump. The oxygenated blood coming from the lungs through a blood vessel B enters the upper left chamber C of the double pump. When chamber C contracts, then blood goes into lower left chamber D. The contraction of chamber D forces the blood to go into a blood vessel E which supplies oxygenated blood to all the organs of the body (except the lungs). The deoxygenated blood coming out of the body organs is taken by a blood vessel F to the right upper chamber G of the pumping organ. Contraction of chamber G forces the deoxygenated blood into right lower chamber H. And finally the contraction of chamber H sends the deoxygenated blood into the lungs through a blood vessel I.

(a) What is organ A?

(b) Name the blood vessel (i) B (ii) E (iii) F, and (iv) I

(c) What are chambers (i) G and (ii) H ?

(d) What are chambers (i) G and (ii) H ?



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270. A liquid X circulates in the human body only in one direction : from body tissue to the heart. Among other things, liquid X contains germs from cells and dead cells. The liquids X is cleaned of germs and dead cells by a special type of white blood cells called Z. This cleaned liquid is then put into blood circulatory system in subclavian veins.

(a) What is (i) liquid X, and (ii) colour Y ?

(b) What are Z ?

(c) The liquid X is somewhat similar to a component of blood.

Name this component

(d) Why is liquid X not red ?

271. There is a pair of bean-shaped organs P in the human body towards the back, just above the waist. A waste product Q formed by the decomposition of unused proteins in the liver is brought into organ P through blood by an artery R. The numerous tiny filters S present in organ P clean the dirty blood by removing the waste salts, and excess water form a yellowish liquid U which goes from organ P into a bag-like structure V through two tubes W. This liquid is then thrown out of the body through a tube X.

(a) What is (i) organ P, and (ii) waste substance Q ?

(b) Name (i) artery R, and (ii) vein T

(c) What are tiny filters S known as ?

(d) Name (i) liquid U (ii) structure V (iii) tubes W, and (iv) tube

X



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272. The organs A of a person have been damaged completely due to which too much of a poisonous waste material B has started accumulating in his blood, making it dirty. In order to save this person's life, the blood from an artery in the person's arm is made to flow into long tubes made of substance E which are kept in coiled form in a tank containing solution F. This solution contains three materials G, H and I in similar proportions to those in normal blood. As the person's blood passes through long tubes of substance E, most of the wastes present in it go into solution. The clean blood is then put back into a vein in the arm of the person for circulation

- (a) What are organs A ?
- (b) Name the waste substance B
- (c) What are (i) E, and (ii) F ?

(d) Name G, H and I

(e) What is the process described above known as ?



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273. Why is diffusion insufficient to meet the oxygen requirements of multi-cellular organisms like humans?



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274. What criteria do we use to decide whether something is alive?



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275. What are outside raw materials used for by an organism?



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276. What processes would you consider essential for maintaining life?



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277. What are the differences between autotrophic nutrition and heterotrophic nutrition?



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278. Where do plants get each of the raw materials required for photosynthesis?



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279. What is the role of the acid in our stomach?



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280. What is the function of digestive enzymes?



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281. How is the small intestine designed to absorb digested food?



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282. What advantage over an aquatic organism does a terrestrial organism have with regard to obtaining oxygen for respiration?



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283. What are the different ways in which glucose is oxidised to provide energy in various organisms?



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284. How is oxygen and carbon dioxide transported in human beings?



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285. How are the lungs designed in human beings to maximise the area for exchange of gases?



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286. What are the components of the transport system in human beings? What are the functions of these components?



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287. Why is it necessary to separate oxygenated and deoxygenated blood in mammals and birds?



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288. What are the components of the transport system in highly organised plants?



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289. How are water and minerals transported in plants?



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290. How is food transported in plants?



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291. Describe the structure and functioning of nephrons.



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292. What are the methods used by plants to get rid of excretory products



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293. How is the amount of urine produced regulated?



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294. The kidneys in human beings are a part of the system for

A. nutrition

B. respiration

C. excretion

D. transportation

Answer: C



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295. The xylem in plants are responsible for

A. transport of water

B. transport of food

C. transport of amino acids

D. transport of oxygen

Answer: A



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296. The autotrophic mode of nutrition requires

- A. carbon dioxide and water
- B. chlorophyll
- C. sunlight
- D. all of the above

Answer: D



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297. The breakdown of pyruvate to give carbon dioxide, water and energy takes place in

- A. cytoplasm
- B. mitochondria
- C. chloroplast
- D. nucleus

Answer: B

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298. How are fats digested in our bodies? Where does this process take place?

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299. What is the role of saliva in the digestion of food?



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300. What are the necessary conditions for autotrophic nutrition and what are its by-products?



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301. What are the differences between aerobic and anaerobic respiration? Name some organisms that use the anaerobic mode of respiration



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302. How are the alveoli designed to maximise the exchange of gases?



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303. What would be the consequences of a deficiency of haemoglobin in our bodies?



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304. Describe double circulation of blood in human beings. Why is it necessary?



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305. What are the differences between the transport of materials in xylem and phloem?



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306. Compare the functioning of alveoli in the lungs and nephrons in the kidneys with respect to their structure and functioning.



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307. What is the difference between a reflex action and walking?



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308. What happens at the synapse between two neurons?



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309. Which part of the brain maintains posture and equilibrium of the body?



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310. How do we detect the smell of an agarbatti (incense stick)?



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311. What is the role of the brain in reflex action?



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312. What are plant hormones ?



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313. How is the movement of leaves of the sensitive plant different from the movement of a shoot towards light?



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314. Give an example of a plant hormone that promotes growth.



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315. How do auxins promote the growth of a tendril around a support?



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316. Design an experiment to demonstrate hydrotropism.



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317. How does chemical coordination take place in animals?



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318. Why is the use of iodised salt advisable



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319. How does our body respond when adrenaline is secreted into the blood?

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320. Why are some patients of diabetes treated by giving injections of insulin?

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321. Which of the following is a plant hormone ?

A. Insulin

B. Thyroxin

C. Oestrogen

D. Cytokinin

Answer: D



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322. The gap between two neurons is called a

A. dendrite

B. synapse

C. axon

D. impulse

Answer: B



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323. The brain is responsible for

- A. thinking
- B. regulating the heart beat
- C. blancing the body
- D. all of the above

Answer: D



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324. What is the function of receptors in our body? Think of situations where receptors do not work properly. What problems are likely to arise?



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325. Draw the structure of a neuron and explain its function.



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326. How does phototropism occur in plants?



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327. Which signals will get disrupted in case of a spinal cord injury?



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328. How does chemical coordination occur in plants?



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329. What is the need for a system of control and coordination in an organism?



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330. How are involuntary actions and reflex actions different from each other ?



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331. Compare and contrast nervous and hormonal mechanisms for control and coordination in animals.

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332. What is the difference between the manner in which movement takes place in a sensitive plant and the movement in our legs?

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Very Short Answer Type Question

1. Which of the following type of energy is used by living organisms to perform vital life process ?

Kinetic energy, Chemical energy, Potential energy, Nuclear energy



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Short Answer Type Question

1. (a) How do guard cells regulate opening and closing of stomatal pores ?

(b) Two similar green plants are kept separately in oxygen free containers, one in dark and the other in continuous light.

Which one will live longer ? Give reason.



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2. (a) What would happen if all the green plants disappear from the earth ?

(b) If a plant is releasing carbon dioxide and taking in oxygen during the day, does it mean that there is no photosynthesis occurring ? Justify your answer.



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3. (a) Leaves of a healthy potted plant were coated with vaseline. Will this plants remain healthy for long ? Give reason for your answer.

(b) What will happen to the rate of photosynthesis in a plant under the following circumstances ?

(i) cloudy day in morning but bright sunshine in the afternoon

(ii) no rainfall in the area for a considerable time

(iii) gathering of dust on the leaves.



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Mcqs

1. During the deficiency of oxygen in tissues of human beings, pyruvic acid is converted into lactic acid in:

A. cytoplasm

B. chloroplast

C. mitochondria

D. golgi body

Answer: A



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2. Which of the following is most likely to have a much higher breathing rate ?

- A. man
- B. fish
- C. dog
- D. sparrow

Answer: B



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3. The excretory unit in the human excretory system is called :

A. nephron

B. neuron

C. nephridia

D. kidney

Answer: A



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Question Based On High Order Thinking Skills

1. During the respiration of an organism A, 1 molecule of glucose produces 2. ATP molecules whereas in the respiration of another organism B, 1 molecule of glucose produces 38 ATP molecules.

- (a) Which organism is undergoing aerobic respiration ?
- (b) Which organism is undergoing anaerobic respiration ?
- (c) Which type of organism, A or B, can convert glucose into alcohol ?
- (d) Name one organism which behaves like A.
- (e) Name two organisms which behave like B.



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