BIOLOGY

BOOKS - MCGROW HILL EDUCATION

BIOLOGY (HINGLISH)

TRANSPORTATION AND RESPIRATION

Elementary Questions

1. Turgidity of the cells is maintained by

A. wall pressure

B. turgour pressure

C. diffusion pressure

D. osmotic pressure

Answer: B

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2. During rainy seasons doors made of wood generally swell up due to

A. osmosis

B. imbibition

C. bad quality of wood

D. poor workmanship

Answer: B

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3. In a hypertonic solution, a cell water pressure

A. increases

B. first increases and then decreases

C. decreases

D. does not change

Answer: C

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4. The form and structure of growing cells are maintained because of

A. osmosis

B. plasmolysis

C. turgidity

D. wall pressure

Answer: C

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5. Which of the following is true concerning the water potential of a plant cell?

A. it is higher than air

B. it becomes higher when K^+ ions are actively moved into the cell

C. it is equal to zero when the cell is in pure water and turgid

D. it becomes lower after the uptake of water by osmosis

Answer: C

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6. That the cell wall is permeable can be best deduced from the passage of water and mineral salts

A. root hairs into cortical cells

B. pericyle cells into tracheal elements

C. cortical cells into the pericycle

D. soil into root hairs

Answer: D

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7. The principal pathways by which water is translocated in angiosperms is

A. xylem vessel system

B. sicve tubes members of phloem

C. xylems and phloem

D. sieve cells of phloem

Answer: A

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8. Which of the following statements is incorrect?

A. water and inorganic salts are taken simul taneously by root hairs

B. plants take in small quantity of mineral salts through soil water

C. roots are the main absorbing organs of plants

D. plants absorb only one thing at a time, water or inorganic salts

Answer: D

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9. A cell placed in a strong salt solution will shrink because

A. mineral salts will break the cell wall

B. salt water will enter the cell

C. water comes out by exosmosis

D. cytoplasm will decompose

Answer: C

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10. In soil, water available to plants roots is

A. hygroscopic water

B. capillary water

C. gravitation Water

D. colloid water

Answer: B

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11. The movement of water from one cell of the cortex to the adjacent on in the roots is due to

A. accumulation of inorganic salts in the cells

B. accumulation of organic compounds in the cells

C. chemical potential gradient

D. water potential gradient

Answer: D

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12. Which of the following is connected with trans port of water in plants?

A. phloem

B. xylem

C. epidermis

D. Cambium

Answer: B

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13. The initial stage of water absorption by root cells is by

A. absorption

B. imbibition

C. osmosis

D. respiration

Answer: B

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14. All of the following involves osmosis except

A. water passing from a root hair to adjacent cells

B. water passing from a xylem vessel element to xylem vessel element above it

C. water entering a mesophyll cell from the xylem vessel element

D. water from soil entering a root hair

Answer: B

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15. Osmosis is the movement of

A. solute particles from lower to higher con centration

B. solute particles from higher to lower con centration

C. solvent particles from lower to higher concentration

D. solvent particles from higher to lower concentration

Answer: B

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16. Which of the following is not an example of a selectively permeable membrane?

A. plasma lemma

B. cell wall

C. mitochondrial membrane

D. chloroplast membrane

Answer: B

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17. Which of the following is responsible for gut tation?

A. root pressure

B. transpiration

C. photosynthesis

D. osmosis

Answer: A

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18. Which of the following wall in the guard cells is thick?

A. inner

B. side wall

C. all the three

D. outer

Answer: A

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19. Stomata will open, if there is an accumulation of the following element in the guard cells

A. magnesium

B. zinc

C. potassium

D. iron

Answer: C

View Text Solution

20. Phenyl mercuric acetate

A. reduces transpiration rate

B. reduces photosynthesis

C. kills the plant

D. reduces respiration

Answer: A

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21. The stage when plasmolysis just begins and the plasma lemma starts receding the cells walls is called

A. deplasmolysis

B. plasmolysis

C. incipient plasmolysis

D. all of the above

Answer: C

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22. The vacuolar membrane is called

A. Plamalemma

B. Tonoplast

C. Chromoplast

D. Tonotaxis

Answer: B

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23. The tissue respiration refers to

A. inspiration

B. external respiration

C. internal respiration

D. expiration

Answer: C

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24. Which of the following features does all gas exchange have in common?

A. They are enclosed within ribs

B. They are maintained at constant tempera ture

C. The exchange surfaces are moist

D. They are exposed to air

Answer: C

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25. Which of the following has no blood but respires?

A. earthworm

B. hydra

C. cockroach

D. fish

Answer: A

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26. Which type of respiratory organs are present in spiders and scorpions?

A. book lungs

B. gill books

C. gills

D. lungs

Answer: A

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27. Common feature of human and insect tracheae - pills

A. noncollapsible wall

B. supporting rings

C. ectodermal origin

D. endodermal origin

Answer: B

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28. The functional respiratory organ of a fully formed tadpole is the

A. skin

B. lung

C. gill

D. air bladder

Answer: C

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29. The gas-exchange surfaces of larger aquatic animals are

A. tracheae

B. malpighian tubules

C. gills

D. book lungs

Answer: C

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30. Which one of the following can respire in total absence of air?

A. amoeba

B. bed bug

C. hydra

D. tapeworm

Answer: D

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31. In frog, cutaneous respiration takes place

A. only in water, when pulmonary respiration does not take place

B. only in water, but along with pulmonary respiration

C. only on land

D. always

Answer: D

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32. During hibernation, the frog respires by

A. lungs only

B. partly by lungs and partly by skin

C. both skin and lungs

D. skin only

Answer: D

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33. Vocal cords occur in

A. pharynx

B. glottis

C. bronchial tube

D. larynx

Answer: D

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34. In man, which of the following structures is analogous to the spiracles of cockroach?

A. alveoli

B. lungs

C. bronchioles

D. nostrils

Answer: D

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35. Which of the following prevents collapsing of trachea?

A. diaphragm

B. ribs

C. cartilaginous discs

D. muscles

Answer: C

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36. A child breathes nearly

A. 13 times a minute

B. 26 times a minute

C. 52 times a minute

D. 72 times a minute

Answer: B

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37. A normal man respires in a minute

A. 10-15 times

B. 14-18 times

C. 20-25 times

D. 25–30 times

Answer: B

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38. Lungs have a large number of alveoli for

A. having spongy texture and proper shape

B. more surface area for diffusion of gases

C. more space for increasing volume of in spired air

D. more nerve supply

Answer: B

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39. Which one of the following structures closes the respiratory passage during ingestion of food?

A. larynx

B. epiglottis

C. hard palate

D. soft palate

Answer: B

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40. The covering of lungs is called

A. pericardium

B. pleural membrane

C. perichondrium

D. peritoneum

Answer: B

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41. The narrowest and most numerous tubes of lungs are termed as

A. bronchus

B. alveoli

C. bronchioles

D. hilum

Answer: C

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42. The exchange of gases in a mammal takes place

A. trachea

B. bronchioles

C. bronchi

D. alveoli

Answer: D

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43. When diaphragm of man is completely dome shaped it shows

A. end of expiration and beginning of inspira tion

B. beginning of expiration and end of inspira tion

C. increased rate of breathing

D. decreased rate of breathing

Answer: A

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44. During inspiration, as a result of contraction of muscles attached to it, the diaphragm

A. becomes dome-shaped

B. flattens

C. rotates

D. flattens and rotates

Answer: B

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45. Forced deep breathing for a few minutes by a person sitting at rest may be followed by a temporary cessation of breathing. This is due to

A. too much oxygen in blood

B. too much carbon dioxide in blood

C. both, too much oxygen and very little car bon dioxide in blood

D. very little carbon dioxide in the blood

Answer: D

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46. Volume of air inspired and expired with each normal breath is called

A. tidal volume

B. inspiratory capacity

C. total lung capacity

D. residual volume

Answer: A

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47. Tidal volume of air in a normal healthy man during inspiration is about

A. $300 - 400ml$

B. $500 - 700ml$

C. $900 - 1000ml$

D. $100 - 250ml$

Answer: B

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48. The maximum possible volume of air, which can be inspiration, is called as

A. tidal air volume

B. vital lung capacity

C. complemental air volume

D. total lung capacity

Answer: B

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49. After complete exhalation the lungs of a healthy man contains a litre of gas, this quantity is known as

A. residual volume

B. functional residual capacity

C. total lung capacity

D. dead space

Answer: A

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50. Percentage of o_2 present in inhaled air in man is about

A. $21\ \%$

B. $78\ \%$

C. $1\ \%$

D. $43\ \%$

Answer: A

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51. In man, expired air contains oxygen about

A. 4%

B. 15.7%

C. 16%

D. 20%

Answer: C

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52. Amount of O_2 normally carried by 100 ml of pure blood, is

A. 40 ml

B. 10 ml

C. 20 ml

D. 30 ml

Answer: C

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53. Oxygen is transported in blood mainly by

A. leucocytes

B. erythrocytes

C. thromobocytes

D. blood plasma

Answer: B

View Text Solution

54. Carbon monoxide has greater affinity for he moglobin as compared to oxygen

A. 1000 times

B. 200 times

C. 20 times

D. 2 times

Answer: B

View Text Solution

55. In man percentage of CO_2 transported as bicar bonates is

A. 5% to 10%

B. 70% to 75%

C. 90% to 95%

D. 50% to 65%

Answer: B

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56. Most of the carbon dioxide in the blood is car ried in the form of

A. carbonic acid

B. bicarbonates

C. carbaminohaemoglobin

D. dissolved CO_2

Answer: B

View Text Solution

57. If a respiratory surface dries out, gas exchange will

A. increase

B. decrease

C. stop

D. not be affected

Answer: C

View Text Solution

58. If the CO_2 concentration in the blood increases, the breathing shall

A. increase

B. decrease

C. affected

D. stop

Answer: A

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59. Chloride shift is essential for transport of

A. CO_2 and O_2

B. N_2

C. CO_2

D. O_2

Answer: C

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60. The breathing centre in the brain responds to changes in the

A. oxygen concentration of the blood

B. carbon dioxide concentration of the blood

C. glucose in the mitochondria

D. acetyl coenzyme A in the mitochondria

Answer: B

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61. Which one of the following binds with haemo globin irreversibly?

A. Carbon dioxide

B. Carbon monoxide

C. ethane

D. nitrogen

Answer: B

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62. Emphysema is a condition resulting from

A. cigarette smoking

B. liquor consumption

C. drug addiction

D. none of the above.

Answer: A

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63. If a tissue is having inadequate supply of oxygen, the condition is called as

A. hypoxia

B. asphyxia

C. anoxia

D. pleurisy

Answer: A

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64. Asthma is a respiration disease caused due to

A. infection of trachea

B. infection of lungs

C. bleeding into pleura cavity

D. spasm in bronchial muscles

Answer: D

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65. Mountain sickness results due to

A. anaemic hypoxia

B. arterial hypoxia

C. lack of sufficient RBCs

D. lack of sufficient WBCs

Answer: B

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66. Disease called pleurisy is due to

A. inflammation of the pleura

B. inflammation of trachea

C. inflammation of alveoli

D. none of the above

Answer: A

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67. Water will be absorbed by root hairs when

A. concentration of solutes in the cell sap is high

B. plant is rapidly respiring

C. they are separated from soil by a permeable membrane

D. concentration of salts in the soil is high

Answer: A

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68. Which one of the following is connected with transport of water in plants?

A. phloem

B. xylem

C. epidermis

D. cambium

Answer: A

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69. If the cut end of a tree is put in eosin solution

A. leaves remain fresh but ascent of sap stops

B. phloem gets coloured because of ascent of sap

C. xylem elements get stained showing ascent of sap through them

D. ascent of sap stops

Answer: C

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70. The principal pathways by which water is translocated in angiosperms is

A. xylein vessel system

B. xylem and phloem

C. sieve tubes members of phloem

D. sieve cells of phloem

Answer: A

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71. The carbohydrate synthesised in the leaves are transported through sieve tubes most commonly in the form of

A. glucose

B. triose sugar

C. sucrose

D. soluble starch

Answer: C

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72. Due to low atmospheric pressure the rate of transpiration will

A. increase

B. decrease slowly

C. decrease rapidly

D. remain unaffected

Answer: A

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73. The transpiration in plants will be lowest

A. when there is high humidity in the atmo sphere

B. there is excess of water in the cell

C. environmental conditions are very dry

D. high wind velocity

Answer: A

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74. Rate of transpiration in a dorsiventral leaf is

A. greater at the upper surface

B. greater at the lower surface

C. equal at both the surfaces

D. none of the above

Answer: B

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75. Which of the following is not a function of transpiration?

A. excretion of minerals

B. cooling of leaves

C. uptake of water

D. uptake of minerals

Answer: A

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76. Which of the following processes keeps plant cool?

A. transpiration

B. guttation

C. photosynthesis

D. translocation

Answer: A

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77. Which of the following is used for determining the rate of transpiration in plants?

A. tensiometer

B. auxanometer

C. porometer

D. potometer

Answer: D

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78. Which one of the following is the most common type of transpiration?

A. stomatal

B. lenticular

C. foliar

D. cuticular

Answer: A

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79. Phenylmercuric acetate

A. reduces transpiration rate

B. reduces photosynthesis

C. kills the plant

D. reduces respiration

Answer: A

View Text Solution

80. Which one of the following is responsible for guttation?

A. root pressure

B. transpiration

C. photosynthesis

D. osmosis

Answer: A

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81. The process of the escape of liquid from the tip of uninjured leaf or through hydathodes is called

A. transpiration

B. guttation

C. evapo-transpiration

D. evaporation

Answer: B

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82. In a closed circulatory system, blood is com pletely enclosed within

A. the skeleton

B. sinuses

C. vessels

D. hearts

Answer: C

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83. In which of the following groups of animal the heart pumps only deoxygenated blood?

A. fishes

B. reptile

C. birds

D. amphibians

Answer: A

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84. Haemoglobin is found in

A. all invertebrates

B. only in vertebrates

C. earthworm and rabbit

D. cockroach and earthworm

Answer: C

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85. Indicate correct statement for man?

A. arteries always carry oxygenated blood while veins always carry deoxygenated blood

B. arteries are provided with valves while veins are devoid of valves

C. arteries always carry blood away from the heart, while veins always carry blood towards the heart

D. venous blood is returned to left auricle

Answer: C

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86. The smallest blood vessel in the body is a

A. capillary

B. artery

C. vena cava

D. vein

Answer: A

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87. Which of the following has no muscular walls?

A. Artery

B. Arteriole

C. Capillary

D. Vein

Answer: C

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88. The exchange of materials between blood and interstitial fluid occurs only at the

A. veins

B. capillaries

C. arteries

D. arterioles

Answer: B

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89. About how much blood is in the circulatory system of an average person?

A. 1 litre

B. 2 litres

C. 5 litres

D. 10 litres

Answer: C

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90. The proteins present in blood and necessary for developing immunity to diseases are

A. albumins and globulins

B. (a) and (b) globulins

C. globulins only

D. albumins

Answer: C

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91. Both erythrocytes and leucocytes are formed in the

A. bone marrow

B. thymus

C. arterial walls

D. lymph nodes

Answer: A

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92. An erythrocyte lives for approximately

A. one week

B. one month

C. four months

D. one year

Answer: C

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93. One of the factors required for the maturation of erythrocytes is

A. vitamin D

B. vitamin A

C. vitamin B12

D. vitamin C

Answer: C

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94. Iron in haemoglobin exists as

A. unionised iron atom

B. ferric ions only

C. ferrous ions only

D. ferric or ferrous ions depending upon the oxygenated state

Answer: C

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95. Normal haemoglobin content of an adult man 92. All

A. 10.5 gm/100 ml of blood

B. 12.5 gm/100 ml of blood

C. 14.5 gm/100 ml of blood

D. 13.5 gm/100 ml of blood

Answer: C

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96. Which blood constituent makes up more of the volume of blood?

A. red blood cells

B. plasma

C. blood proteins

D. white blood cells

Answer: B

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97. Number of RBC in an adult man per mm of blood is

A. 5,000

B. 50,000

C. 500,000

D. 5,000,000

Answer: D

View Text Solution

98. Number of RBC increases if one lives at higher altitude because

A. there is less oxygen on mountains

B. more heat is required in body for producing body warmth

C. there are no germs in mountain air

D. there is more oxygen on mountains

Answer: A

View Text Solution

99. The abnormal increase in the total RBC count is referred to as

A. pneumonia

B. polycythemia

C. leucopenia

D. anaemia

Answer: B

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100. The life span of human WBC is normally

A. 12-13 days

B. 80-90 days

C. 100-120 days

D. 20-30 days

Answer: A

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101. The largest corpuscles in mammalian blood are

A. erythrocytes

B. monocytes

C. lymphocytes

D. basophils

Answer: B

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102. Leukaemia is a cancer due to

A. excessive production of WBCS

B. excessive production of RBCS

C. excessive production of platelets

D. all of these

Answer: A

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103. What is diapedesis?

A. a kind of amoeboid movement

B. process of coming out of WBC through the capillary wall to fight against foreign micro-organism

C. a type of locomotion found in hydra

D. the process of filtration of urea in kidney

Answer: B

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104. Females need more dietary iron than males because

A. they lose iron during menstruation

B. they have less bone marrow

C. they have large volume of blood

D. they are less able to absorb iron

Answer: A

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105. Thromoboplastin required in blood clotting is secreted by

A. monocytes

B. lymphocytes

C. erythrocytes

D. platelets

Answer: D

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106. Thrombin occurs in vertebrates in

A. the blood and gives it red colour

B. the blood and is important for clotting

C. the liver and is important for bile secre

tion

D. the stomach and digests proteins

Answer: B

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107. Blood clot inside a blood vessel is known as

A. thrombosis

B. agglutinin

C. clot

D. Thrombus

Answer: D

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108. In human, the prothrombin required for blood clotting is produced in

A. Liver

B. stomach

C. pancreas

D. spleen

Answer: A

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109. Which of the metallic ions is essential for blood clotting?

A. Na^{+}

B. Ca^{++}

C. K^{+}

D. Fe^{++}

Answer: B

View Text Solution

110. Heparin in blood is released from

A. clumped platelets

B. mast-cell granules

C. non-granulocytes

D. granulocytes

Answer: B

View Text Solution

111. A clot of blood contains

A. prothrombin

B. fibrinogen

C. fibrin

D. thrombin

Answer: C

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112. The function of vitamin K is in

A. regulation of calcium and phosphorus metabolism

B. blood clotting

C. respiration

D. carbohydrate metabolism

Answer: C

View Text Solution

113. Oxygenated blood is carried by

A. pulmonary vein

B. pulmonary artery

C. hepatic portal vein

D. renal vein

Answer: A

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114. In mammals, oxygenated blood enters the heart at the

A. right atrium

B. left atrium

C. right ventricle

D. left ventricle

Answer: B

View Text Solution

115. Which chamber of a bird heart does oxygen rich blood first enter?

A. right atrium

B. right ventricle

C. left ventricle

D. left atrium

Answer: D

View Text Solution

116. Which chamber of the heart has the thickest muscular walls?

A. right atrium

B. left atrium

C. right ventricle

D. left ventricle

Answer: D

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117. When the right ventricle of heart contracts, the blood goes to

A. all parts of the body

B. pulmonary arteries

C. aorta

D. lungs

Answer: D

View Text Solution

118. The tricuspid valve occurs between the

A. right auricle and right ventricle

B. pulmonary aorta

C. carotico-systemic aorta and left ventricle

D. left ventricle

Answer: A

View Text Solution

119. In the heart of man the bicuspid valve is situated between

A. right ventricle and pulmonary aorta

B. left auricle and left ventricle

C. right auricle and right ventricle

D. postcaval and auricle

Answer: B

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120. Chordae tendinae are found in

A. ventricle of brain

B. aria of heart

C. ventricle of heart

D. truncus arteriosus

Answer: C

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121. Mammals have double circulation it means that

A. heart chambers receive both oxygenated and deoxygenated blood, which are com pletely separated from each other

B. the blood circulates with double speed than other vertebrates

C. there are two types of blood vessels associ ated to every organ

D. the blood vessels are paired

Answer: A

View Text Solution

122. The diastolic pressure in a healthy person is

A. 60 mm

B. 80 mm

C. 100 mm

D. 120 mm

Answer: D

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123. One heartbeat in an average man lasts

A. 0.8 second

B. 0.2 second

C. 0.5 second

D. 1 minute

Answer: A

View Text Solution

124. Typical 'lub-dub' sounds heard in heartbeat are due to

A. closing of bicuspid and tricuspid valves

B. closing of semilunar valves

C. closure of bicuspid-tricuspid valves fol lowed by semilunar valves

D. blood under pressure through aorta

Answer: C

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125. A heart murmur indicates a defective

A. sinoatrial node

B. atrioventricular node

C. heart valve

D. pulmonary artery or aorta

Answer: C

View Text Solution

126. Pulse beat is measured from

A. Artery

B. Nerve

C. Capillary

D. Vein

Answer: A

View Text Solution

127. What is blood pressure?

A. the pressure of blood on the heart muscle

B. the pressure of blood exerted on the walls of arteries and veins

C. the pressure of blood on the walls of veins only

D. the pressure of blood on the walls of arteries only

Answer: B

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128. A portal system is that in which

A. a vein begins from an organ and ends in heart

B. an artery breaks up in an organ and restarts by the union of its capillaries

C. the blood from gut is brought into kidneys before it is poured into heart

D. a vein breaks up in an organ into capillaries and restart by their union as a new vein in the same organ

Answer: D

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129. Hepatic portal system starts from

A. digestive system to liver

B. kidney to liver

C. liver to heart

D. liver to kidney

Answer: A

View Text Solution

130. The colour of lymph is

A. white

B. pale yellow

C. colourless

D. milky

Answer: C

View Text Solution

131. In which organ the blood is stored?

A. spleen

B. liver

C. kidney

D. heart

Answer: A

View Text Solution

132. Blood groups in man were discovered by

A. Mendel

B. Francis Nelson

C. S. Miller

D. Landsteiner

Answer: D

View Text Solution

133. Rh factor was discovered by

A. William Harvey

B. Landsteiner

C. Robert Hook

D. C. De Duve

Answer: B

View Text Solution

134. Rh factor is named after

A. Drosophila

B. a Monkey

C. a Rat

D. a Man

Answer: B

View Text Solution

135. Which one of the following is a biologically incompatible marriage?

A. Rh positive male and Rh positive female

B. Rh negative male and Rh positive female

C. Rh negative male and Rh negative female

D. Rh positive male and Rh negative female

Answer: D

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136. Rh factor may be responsible for

A. Turner's syndrome

B. AIDS

C. sickle cell anaemia

D. erythroblastosis foetalis

Answer: D

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Higher Order Thinking Questions

1. If all the tissues except xylem of main stem of a plant are removed in a ring

A. the root dies first

B. the shoot dies first

C. the root and shoot will die at the same time

D. neither the root nor the shoot will die

Answer: A

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2. Downward flow of organic and even some inorganic solutes takes place from the leaves through the stem by way of

A. phloem by protoplasmic streaming

B. all parenchymatous cells of the stem by diffusion of solute downward

C. phloem by mass flow of solutes from higher turgor pressure of leaf mesophyll

cells along a pressure gradient in phloem cells

D. phloem by diffusion

Answer: C

View Text Solution

3. The stomata in angiosperms open and close due to

A. the presence of gases inside the leaves

B. their genetic constitution

C. turgour pressure of guard cells

D. turgour pressure of subsidiary cells

Answer: C

View Text Solution

4. In a plant cell OP is equally to

A. Diffusion Pressure Deficit + Turgour Pressure

B. Diffusion Pressure Deficit - Turgour Pressure

C. Turgour Pressure – Diffusion Pressure Deficit

D. Turgour Pressure - Diffusion Pressure

Answer: A

View Text Solution

5. A cell is plasmolysed after being kept in a hypertonic solution. What will be present between cell wall and plasma lemma?

A. hypertonic solution

B. air

C. hypotonic solution

D. isotonic solution

Answer: A

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6. When a cell is fully turgid which of the following will be zero?

A. wall pressure

B. suction pressure

C. osmotic pressure

D. turgour pressure

Answer: B

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7. If a cell with $OP = 6$ and $TP = 5$ is surrounded by cells with $OP = 3$ and $TP = \lambda$ what will be the direction of water movement?

A. from other cells to cell A

B. water will not move

C. water will move up

D. from cell A to other cells

Answer: D

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8. Freshly cut potato chip is put into a strong solution of sugar later it will be found

A. flaccid

B. turgid

C. more full of starch

D. more full of sugar

Answer: A

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9. The ultimate cause for movement of water against gravity in a tree is

A. osmosis

B. imbibition

C. transpiration

D. photosynthesis

Answer: C

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10. At high altitude, RBCs of human blood will

A. increase in number

B. decrease in number

C. decrease in size

D. increase in size

Answer: A

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11. A person having fever may be breathing faster than normal. The reason for this faster breathing is due to

A. additional need of O_2 for germs

B. mental worry of the patient

C. high temperature of body

D. loss of appetite

Answer: C

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12. About $30\ \%$ of CO_2 is transported as

A. carbamino compounds

B. bicarbonates of Na and K

C. carboxyhaemoglobin

D. oxyhaemoglobin

Answer: A

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13. Gas exchange in the gills of a fish is enhanced by having the blood flow in a direction opposite to the direction of water flow, a process known as

A. countercurrent exchange

B. ventilation

C. facilitated diffusion

D. active respiration

Answer: A

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14. If a dried cobalt chloride paper is clipped on the under surface of a leaf its colour changes from blue to pink because

A. it reacts with the chlorophyll of the leaf

B. the clipper puts a pressure on the paper

C. paper is moistened by the transpiring water

D. it comes in contact with green leaf

Answer: C

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15. The cells constituting walls of the blood capillaries are known as

A. parietal cells

B. haemocytes

C. oxyntic cells

D. endothelial cells

Answer: D

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16. The advantage of RBC's being bioconcave is that

A. to increase surface area

B. they can be packed up like coins

C. they can fit into capillaries

D. none of the above

Answer: A

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17. An anticoagulant used for preventing clotting in vitro is sodium oxalate. It prevents clot formation by

A. combining with cations in the blood

B. inhibiting clotting factor VIII activity

C. getting itself deposited over the surface of RBC

D. blocking the fibrinogen activity

Answer: A

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18. Systole causes

A. entry of blood into lungs

B. entry of blood into heart

C. exit of blood from heart

D. exit of blood from ventricles

Answer: D

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19. The heart usually pumps blood with greater force in the old people than the young because

A. the oxygen content per unit volume of the blood decreases

B. the elasticity of the arteries decreases

C. the elasticity of the arteries increases

D. the nutrient content per unit of blood decrease

Answer: B

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20. Which one of following is called pace maker of the heart?

A. S A node

B. A V node

C. Chordae tendinae

D. A V septum

Answer: A

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