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Life Processes T2

10th Standard

Science

20 x 1 = 20

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

(a) Pepsin (b) Mucus (c) Salivary amylase (d) Oesophagus

2) Which part of alimentary canal receives bile from the liver?

(a) Stomach (b) Small intestine (c) Large intestine (d) Oesophagus

3) A few drops of iodine solution were added to rice water. The solution turned blue-black in colour. This indicates that rice water contains

(a) Complex proteins (b) simple proteins (c) fats (d) Starch

4) Which of the following statement(s) is (are) true about respiration?

(i)During inhalation, ribs inward and diaphragm is raised
(ii)In the alveoli, exchange of gases takes place i.e., oxygen from alveolar air diffuse into blood and carbon dioxide from blood into alveolar air
(iii)Haemoglobin has greater affinity for carbon dioxide than oxygen
(iv)Alveoli increase surface area for exchange of gases

(a) (i) and (iv) (b) (ii) and (iii) (c) (i) and (iii) (d) (ii) and (iii)

5) Which of the following statement (s) is are true about heart?

(i)Left atrium receives oxygenated blood from different parts of body while right atrium receives deoxygenated blood from lungs
(ii)Left ventricle pumps oxygenated blood to different body parts while right ventricle pumps deoxygenated blood to lungs
(iii)Left atrium transfer oxygenated blood to right ventricle which sends it to different body parts
(iv)Right atrium receives deoxygenated blood from different parts of the body while left ventricle pumps oxygenated blood to different parts of the body

(a) (i) (b) (ii) (c) (ii) and (iv) (d) (i) and (iii)

6) What prevents backflow of blood inside the heart during contraction?

(a) Valves in heart (b) Thick muscular walls of venticles (c) Thin walls of atria (d) All of the above

7) Oxygen liberated during photosynthesis comes from

(a) Water (b) Chlorophyll (c) Carbon dioxide (d) Glucose

8) The blood leaving the tissue becomes richer in

(a) Carbon dioxide (b) Water (c) Haemoglobin (d) Oxygen

9) Which of the following equation is the summary of photosynthesis?

(a) $6CO_2+12H_2O \rightarrow C_6H_{12}O_6+6CO_2+6H_2O$ (b) $6CO_2+H_2O+Sunlight \rightarrow C_6H_{12}O_6+O_2+6H_2O$

(c) $6CO_2+12H_2O+Chlorophyll+Sunlight \rightarrow C_6H_{12}O_6+6O_2+6H_2O$

(d) $6CO_2+12H_2O+Chlorophyll+Sunlight \rightarrow C_6H_{12}O_6+6CO_2+6H_2O$

10) Choose the event that does not occur in photosynthesis

(a) Absorption of light energy by chlorophyll (b) Reduction of carbon dioxide to carbohydrates

(c) Oxidation of carbon to carbon dioxide (d) Conversion of light energy to chemical energy

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

(a) Conversion of pyruvate to ethanol (b) Conversion of pyruvate to glucose

(c) Non conversion of glucose to pyruvate (d) Conversion of pyruvate to lactic acid

12) Choose the correct path of urine in our body

(a) kidney → ureter → urethra → urinary bladder (b) kidney → urinary bladder → urethra → ureter

(c) kidney → ureter → urinary bladder → urethra (d) urinary bladder → kidney → ureter → urethra

13) Deoxygenated blood enters the heart through

(a) Right ventricle (b) Right atrium (c) Light ventricle (d) Left atrium

14) Complete digestion of carbohydrates, proteins and fats takes place in

(a) Stomach (b) Large intestine (c) Small intestine (d) Villi

15) Carbohydrate in humans is stored in the form of

(a) Glycogen (b) Starch (c) Glucose (d) Maltose

16) Tiny pores present on the surface of the leaf are called

(a) Stomata (b) Guard cells (c) Chloroplast (d) None of these

17) Respiration taking place in absence of oxygen is called

(a) Aerobic respiration (b) Anaerobic respiration (c) both of these (d) none of there

18) Correct equation for photosynthesis is

(a) $CO_2 + 12H_2O \longrightarrow C_6H_{12}O_6 + 6CO_2 + H_2O$ (b) $CO_2 + 6H_2O \longrightarrow C_6H_{12}O_6 + 6CO_2 + H_2O$

(c) $6CO_2 + H_2O \longrightarrow C_6H_{12}O_6 + CO_2 + 12H_2O$ (d) $6CO_2 + 12H_2O \longrightarrow C_6H_{12}O6 + 6O_2 + 6H_2O$

19) Main site of photosynthesis is

(a) Leaf (b) Stem (c) Chloroplast (d) Guard cells

20) Swelling of guard cells lead to

(a) Opening of stomatal pores (b) Closing of stomatal pores (c) Both (i) and (ii) (d) None of these

5 x 1 = 5

21) **Assertion:**ATP is the output of the exothermic reaction that takes place in the cell.

Reason: ATP is used further by endothermic reactions.

Codes

(a) If both assertion and reason are true and the reason is correct explanation of assertion.

(b) If both assertion and reason are true but reason is not a correct explanation of assertion.

(c) If assertion is true and reason is false.

(d) If both assertion and reason are false.

22) **Assertion:**Fishes take in water through their mouths and force it past the gills

Reason: This is where the dissolved oxygen is taken up by blood.

Codes

(a) If both assertion and reason are true and the reason is correct explanation of assertion.

(b) If both assertion and reason are true but reason is not a correct explanation of assertion.

(c) If assertion is true and reason is false.

(d) If both assertion and reason are false.

23) **Assertion:** Photosynthesis takes place in green parts of the plants.

Reason: Photosynthesis always takes place in leaves.

Codes

(a) Both A and R are true and R is correct explanation of the assertion.

(b) Both A and R are true but R is not the correct explanation of the assertion.

(c) A is true but R is false.

(d) A is false but R is true.

24) **Assertion:** Capillaries are the thinnest blood vessels.

Reason: Capillaries connect the branches of arteries and veins

Codes

(a) Both A and R are true and R is correct explanation of the assertion.

(b) Both A and R are true but R is not the correct explanation of the assertion.

(c) A is true but R is false.

(d) A is false but R is true.

25) **Assertion**: Most of the living organisms carry out aerobic respiration.
Reason: Mitochondria is the site of aerobic respiration in the cell.
Codes
(a) Both A and R are true and R is correct explanation of the assertion.
(b) Both A and R are true but R is not the correct explanation of the assertion.
(c) A is true but R is false.
(d) A is false but R is true.

3 x 4 = 12

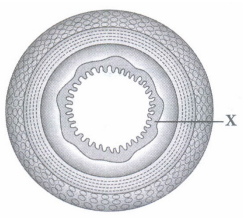
26) What are the methods used by plants to get rid of excretory products?

27) Describe double circulation in human beings. Why is it necessary?

28) Draw a diagram of human excretory system and label kidney, ureter, renal artery and urethra. State in brief the function of:
1 renal artery
2. kidney
3. ureter
4. urinary bladder

2 x 4 = 8

29) The small intestine is the longest part of the alimentary canal. It is a narrow tube of about 6 metres which lies coiled in the abdomen. The length of small intestine varies in different animals depending on the type of food they eat.
(i) Humans are not able to digest cellulose whereas they are able to digest starch due to
(a) absence of enzyme cellulase **(b) alkaline pH in small intestine**
(c) presence of villi **(d) acidic pH in stomach**
(ii) What will happen if the lining X shown in the figure of transverse section of gut is smooth instead of having such foldings?



(a) Surface area of absorption will be enhanced **(b) Surface area of absorption will be reduced**
(c) Alkaline pH will be changed into acidic pH **(d) None of these**
(iii) Butter cannot be digested in the stomach as lipase and bile are(a) released in small intestine
(a) released in small intestine **(b) inactive in stomach**
(c) released in large intestine **(d) absorbed in the stomach.**
(iv) Which of the following is a correct statement?
(a) Herbivores have shorter small intestine as they eat grasses
(b) Carnivores have larger small intestine as they eat meat
(c) Herbivores have larger small intestine as they eat grasses
(d) None of these
(v) Various types of movements are generated by the _____ layer of the small intestine.
(a) serosa **(b) muscularis** **(c) mucosa** **(d) submucosa**

30) Our body needs to remove the wastes that build up from cell activities and from digestion. It these wastes are not removed, then our cells can stop working and we can get very sick. The organs of our excretory system help to release wastes from our body. The excretory system consists of a pair of kidney, a pair of ureters, a urinary bladder and a urethra. Each kidney is made up of nearly one million complex tubular structures called nephrons. The formation of urine involves various processes that takes place in the different parts of the nephron. Each nephron consists of a cup-shaped upper end called Bowman's capsule containing a bunch of capillaries called glomerulus. Bowman's capsule leads to tubular structure-proximal convoluted tubule, loop of Henle and distal convoluted tubule which ultimately joins the collecting tubule.

(i) The following substances are the excretory products in animals. Choose the least toxic form.

(a) Urea (b) Uric acid (c) Ammonia (d) CO_2

(ii) The outline of principal events of urination is given below in random manner.

(I) Stretch receptors on the wall of urinary bladder send signals to the CNS.

(II) The bladder fills with urine and becomes distended.

(III) Micturition

(IV) CNS passes on motor messages to initiate the contraction of smooth muscles of bladder and simultaneous relaxation of urethral sphincter.

The correct sequence of the events is

(a) (I) →(II) → (III) → (IV) **(c) (II) →(I) → (IV) → (III)**

(b) (IV)→ (III) → (II) → (I) **(d) (III) → (II)→ (I) → (IV)**

(iii) A person who is not taking food or beverages will have _____ in urine.

(a) little glucose	**(b) less urea**	**(c) excess urea**	**(d) little fat**

(iv) Glomerular filtrate is first collected by

(a) distal convoluted tubule	**(b) proximal convoluted tubule**
(c) Bowman's capsule	**(d) loop of Henle**

(v) The given figure represents a single nephron from a mammalian kidney. Identify the labelled parts, match them with the options (i-iv) and select the correct answer.