

# **Question bank**

## **Subject - Biology**

### **Class -10**

#### **Section -A**

**Q -1 Which of these reactions occur in photosynthesis?**

- A) Carbon dioxide is reduced and water is oxidised (Carbon dioxide + water + energy from light produces glucose and oxygen)**
- B) water is reduced and carbon dioxide is oxidised**
- C) carbon dioxide and water are oxidised**
- D) carbon dioxide and water are reduced**

**Q2- A few drops of iodine solution were added to rice water. The solution turned blue-black in colour. This indicates rice water has –**

- A) complex proteins**
- B) simple proteins**
- C) starch**
- D) Fats**

**Q3- Which is the correct sequence –**

- 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**

**Q4- If salivary amylase is lacking in saliva, which of the event in mouth 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) Absorption of vitamins**

**Q5- The inner lining of the stomach is protected by one of the following from hydrochloric acid. Choose the correct one –**

- A) Mucus**
- B) Salivary amylase**
- C) Pepsin**
- D) Bile**

**Q6- Which part of the alimentary canal receives bile from the liver –**

- A) stomach**
- B) small intestine**
- C) large intestine**
- D) oesophagus**

**Q7- In which part of alimentary canal food is finally digested?**

- A) large intestine**
- b) Stomach**
- C) Mouth cavity**
- D) small intestine**

**Q8- Choose the function of pancreatic juice from the following :**

- A) Trypsin digests proteins and lipase digests carbohydrates**
- B) Trypsin digests emulsified fats and lipase digests proteins**
- C) Trypsin and lipase digest fats**
- D) Trypsin digests proteins and lipase digests emulsified fats**

**Q-9 The correct sequence of anaerobic respiration –**

- B) A) Glucose → pyruvate → lactic acid**
- B) Glucose → Pyruvate → Ethanol + Carbon-Dioxide**
- C) glucose → pyruvate → ADP → lactic acid**
- D) glucose → pyruvate → carbon dioxide + ethanol + energy**

**Q10- Write the correct sequence of air passage involved in inhalation?**

- A) larynx → Nostrils → Pharynx → lungs**
- B) nostrils → Pharynx → larynx → Trachea → alveoli**
- C) nasal passage → larynx → Trachea → Pharynx → Alveoli**
- D) None**

**Q11- During respiration exchange of gases takes place in \_\_\_\_.**

- A) Trachea and larynx**
- B) alveoli of lungs**
- C) Alveoli and throat**
- D) Throat and larynx**

**Q12- What prevents back flow of blood during contraction?**

- A) Valves in heart**
- B) Thick muscular walls of ventricles**
- C) Thin walls of atria**
- D) All**

**Q13- The correct path of urine is \_\_.**

- A) Kidney → ureter → urthra → urinary bladder**
- B) Kidney → urinary bladder → urethra → ureter**
- C) kidney → ureter → urinary bladder → urethra**
- D) urinary bladder → kidney → ureter → urethra**

**Q14- During deficiency of oxygen in tissues of humans, pyruvic acid is converted into lactic acid in \_\_\_\_.**

- A) Cytoplasm**
- B) chloroplast**
- C) mitochondria**
- D) golgi body**

**Q15- Xylem helps in \_\_\_\_.**

- A) transportation of water**
- B) translocation of food**
- C) both a and b**
- D) transportation of water and minerals**

**Q16- What is the approximate length of an alimentary canal?**

- A) 3m**
- B) 4m**
- C) 5m**
- D) 9m**

**Q17- Which organelle is called powerhouse of the cell?**

- A) Mitochondria**
- B) golgi body**
- C) ribosomes**
- D) none**

**Q18- Which respiration is much efficient?**

- A) aerobic**
- B) anaerobic**
- C) both are equal**
- D) none**

**Q19- Write full form of ATP.**

- A) adenosine diphosphate**
- B) adenosine phosphate**
- C) adenosine triphosphate**
- D) none**

**Q20- Which of the following statement(s) is (are) true about respiration?**

- A) During inhalation, ribs move inward and the diaphragm is raised**
- B) In the alveoli, exchange of gases takes place i.e., oxygen from alveolar air diffuses into blood and carbon dioxide from blood into alveolar air sacs**
- C) Haemoglobin has greater affinity for carbon dioxide than oxygen Alveoli does not help in increasing surface area for exchange of gases**
- D) None**

## **Section -B**

**Following questions consist of two statements – Assertion (A) and Reason (R). Answer these questions selecting the appropriate option given below:**

- (a) Both A and R are true and R is the correct explanation of A.**
- (b) Both A and R are true but R is not the correct explanation of A.**
- (c) A is true but R is false.**
- (d) A is false but R is true.**

**Q.1. Assertion (A) : Plants lack excretory organs.**

**Reason (R) : Plants usually absorb essential nutrients.**

**Q.2. Assertion (A) : In anaerobic respiration, one of the end product is alcohol.**

**Reason (R) : There is an incomplete breakdown of glucose.**

**Q.3. Assertion (A) : In plants there is no need of specialised respiratory organs.**

**Reason (R) : Plants do not have great demands of gaseous exchange.**

**Q.4. Assertion (A) : Bile is essential for digestion of lipids.**

**Reason (R) : Bile juice contains enzymes.**

**Q.5. Assertion (A) : Carbohydrate digestion mainly takes place in small intestine.**

**Reason (R) : Pancreatic juice contains the enzyme lactase.**

**Q.6. Assertion (A) : Aerobic respiration requires less energy as compared to anaerobic respiration.**

**Reason (R) : Mitochondria is the powerhouse of the cell.**

**Q.7. Assertion (A): Arteries are thick-walled and elastic in nature.**

**Reason (R) : Arteries have to transport blood away from the heart.**

**Q.8. Assertion (A) : Human heart is four-chambered.**

**Reason (R) : Vena cava is the only artery that supplies deoxygenated blood to the heart.**

**Q.9. Assertion (A): Energy is required to carry out different life processes.**

**Reason (R) : Energy is obtained in the form of ATP in the mitochondria.**

**Q.10. Assertion (A): Rings of cartilage are present in the throat,**

**Reason (R) : These ensure that the air-passage does not collapse**

**Q.11. Assertion (A): Pyruvate is a six-carbon molecule**

**Reason (R) : It is prepared in the cytoplasm as the first step to cellular respiration**

**Q.12. Assertion (A): Molecular movements are needed for life.**

**Reason (R): Body structures made up of these molecules need continuous repair and maintenance**

**Q.13. Assertion (A): Diffusion does not meet high energy requirements of multi-cellular organisms**

**Reason (R) : Diffusion is a fast process but occurs at the surface of the body.**

**Q.14. Assertion (A): The opening and closing of the pore is a function of the guard cells.**

**Reason (R) : Stomatal pores are the site for exchange of gases by diffusion.**

**Q.15. Assertion (A): The purpose of making urine is to filter out undigested food from intestine**

**Reason (R): Kidneys filter the waste and produce urine,**

**Q.16. Assertion (A):** The inner lining of the small intestine has numerous finger-like projections called villi.

**Reason (R) :** The villi increase the surface area for absorption.

**Q.17. Assertion (A):** In human beings, the respiratory pigment is haemoglobin

**Reason (R) :** It is a type of protein which has high-affinity carbon dioxide.

**Q.18. Assertion :** The plants store some of the waste products in their body parts.

**Reason:** Raphides are the solid waste products of plants.

**Q.19. Assertion :** The movement of water and dissolved salts in xylem is always upwards.

**Reason:** 'The upward movement of water is due to low pressure created by transpiration.

**Q.20. Assertion :** Photosynthesis takes place in green parts of the plants.

**Reason:** Photosynthesis always takes place in leaves.

**Q.21. Assertion:** The average number of heart beat of a person at rest is about 80 per minute.

**Reason:** One contraction and relaxation of the heart constitutes a complete heart beat.

**Q.22. Assertion : Ureters are the tubes which carry urine from kidneys to the bladder.**

**Reason: Urine is stored in the urethra.**

**Q.23. Assertion : Ventricles have thicker walls than auricles.**

**Reason: Ventricles have to pump blood into various organs with great pressure**

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

**Reason: Capillaries connect the branches of arteries and veins.**

**Q.25. Assertion : Blood takes up oxygen from the alveolar air and release CO<sub>2</sub> during exchange.**

**Reason: 'The concentration of O<sub>2</sub> is more in alveolar air.**

**Q.26. Assertion: The large intestine is the largest part of the alimentary canal.**

**Reason: Tiger has a shorter small intestine, than herbivores.**

**Q.27. Assertion : Most of the living organisms carry out aerobic respiration.**

**Reason: Mitochondria is the site of aerobic respiration in the cell.**

**Q.28. Assertion :** The Bowman's capsule and the tubule together make a nephron.

**Reason :** The function of tubule is to allow the selective reabsorption of substances like glucose, amino acids, urea, salts and water into the blood capillaries.

**Q.29. Assertion :** Pancreatic juice digests starch, proteins and fats.

**Reason:** Pancreatic juice contains digestive enzymes like pancreatic amylase, trypsin and lipase.

**Q.30. Assertion:** The accumulation of lactic acid in the muscles causes muscle cramps.

**Reason:** During vigorous physical exercise leg muscles respire anaerobically.

**Q.31. Assertion :** Phloem helps in translocation of food from the leaves.

**Reason:** Phloem provides mechanical support to plant.

## **Section -C**

### **Question 1:**

***Read the following and answer any four questions from (i) to (iv).***  
**Heterotrophic nutrition is a mode of nutrition in which organisms obtain readymade organic food from outside sources. The organisms that depend upon outside sources for obtaining organic nutrients are called heterotrophs.**

**Heterotrophic nutrition is of three types: saprophytic, parasitic and holozoic nutrition.**

**(i) In which of the following groups of organisms food material is broken outside the body and absorbed?**

- (a) Mushroom, green plants, Amoeba**
- (b) Yeast, mushroom, bread mould**
- (c) Paramecium, Amoeba, Cuscuta**
- (d) Cuscuta, lice, tapeworm**

**(ii) Which of the following is a parasite?**

- (a) Yeast**
- (b) Taenia**
- (c) Amoeba**
- (d) Earthworm**

**(iii) Which of the following is an example of saprotroph?**

- (a) Grass**
- (b) Mushroom**
- (c) Amoeba**
- (d) Paramecium**

**(iv) Heterotrophic nutrition involves**

- (a) production of simple sugar from inorganic compounds**
- (b) utilisation of chemical energy to prepare food**
- (c) utilisation of energy obtained by plants**
- (d) all of these.**

***Read the following and answer any four questions from (i) to (iv).***

**Q -2 All living cells need nutrients, O<sub>2</sub>, and other essential substances. Also, the waste and harmful substances need to be removed continuously for healthy functioning of cells. So, a well developed transport system is mandatory for living organisms. Complex organisms have special fluids within their bodies to transport such materials. Blood is the most commonly used body fluid by most of the higher organisms. Lymph also helps in the transport of certain substances.**

**(i) Which of the following does not exhibit phagocytic activity?**

- (a) Monocytes**
- (b) Neutrophils**
- (c) Basophil**
- (d) Macrophage**

**(ii) Amount of blood corpuscles is changed in dengue fever. One of the common symptoms observed in people infected with dengue fever is**

- (a) significant decrease in RBC count**
- (b) significant decrease in WBC count**
- (c) significant decrease in platelets count**
- (d) significant increase in platelets count.**

**(iii) Why are WBCs called soldiers of the body?**

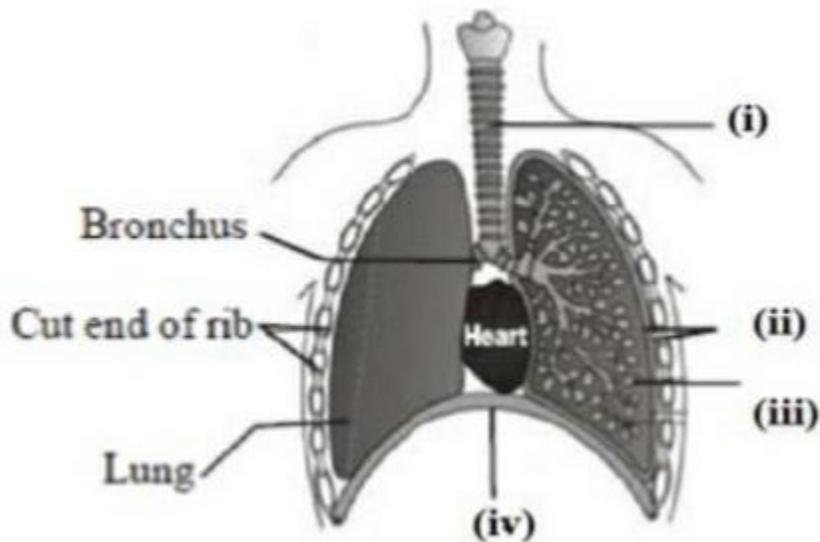
- (a) They are capable of squeezing out of blood capillaries.**
- (b) They are manufactured in bone marrow.**
- (c) They fight against disease causing germs.**
- (d) They have granular cytoplasm with lobed nucleus.**

**(iv) Name the blood cells, whose reduction in number can cause clotting disorder, leading to excessive loss of blood from the body.**

- (a) Erythrocytes**
- (b) Neutrophils**
- (c) Leucocytes**
- (d) Thrombocyte**

**Q-3 Carefully study the diagram of the human respiratory system with labels A, B, C and D.**

**Select the option which gives correct identification and main function and /or characteristic.**



**A. (i) Trachea: It is supported by bony rings for conducting inspired air.**

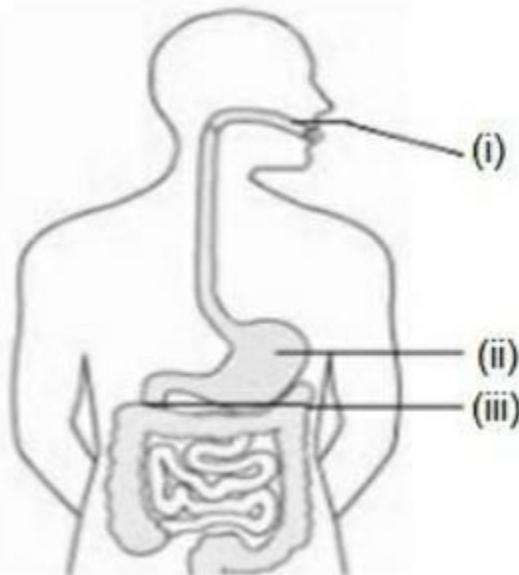
**B. (ii) Ribs: When we breathe out, ribs are lifted.**

**C. (iii) Alveoli: Thin-walled sac like structures for exchange of gases.**

**D. (iv) Diaphragm: It is pulled up when we breathe in.**

**Q-4 Identify the option that indicates the correct enzyme that is secreted in location A, B and C.**

**A. (i)-lipase, (ii)-trypsin, (iii)-pepsin**



**B. (i)-amylase, (ii)-pepsin, (iii)-trypsin**

**C. (i)-trypsin, (ii)-amylase, (iii)-carboxylase**

**D. (i)-permease, (ii)-carboxylase, (iii)-oxidase**