## Life Processes

## **Assertion & Reason Type Questions**

Directions: Each of the following questions consists of two statements, one is Assertion (A) and the other is Reason (R). Give answer:

- a. Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A).
- b. Both Assertion (A) and Reason (R) are true but Reason (R) is not the correct explanation of Assertion (A).
- c. Assertion (A) is true but Reason (R) is false.
- d. Assertion (A) is false but Reason (R) is true.
- Q1. Assertion (A): Leaves are the main site of photosynthesis.

Reason (R): Chloroplast are present in leaves.

**Answer:** (a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A).

**Q2. Assertion (A):** The inner walls of the small intestine have finger like projections called villi which are rich in blood.

**Reason (R):** These villi have a large surface area to help the small intestine in completing the digestion of food. **(CBSE 2023)** 

**Answer:** (b) Both Assertion (A) and Reason (R) are true but Reason (R) is not the correct explanation of Assertion (A).

**Q3. Assertion (A):** Herbivores have longer small intestine than carnivores.

**Reason (R):** Carnivores can digest cellulose due to the presence of enzyme, cellulase.

**Answer:** (c) Reason is false because carnivores cannot digest cellulose.

**Q4. Assertion (A):** Energy is used during the process of respiration.

**Reason (R):** Respiration stores energy in the form of ATP.

**Answer:** (d) Assertion is false because energy is released during cellular respiration.





**Q5. Assertion (A):** Amphibians can tolerate mixing of oxygenated and deoxygenated blood.

Reason (R): Amphibians are animals with two chambered heart. (CBSE SQP 2022-23)

**Answer:** (c) Reason is false because amphibians have three- chambered hearts.

**Q6. Assertion (A):** Nitrogen is an essential element for plant growth and is taken up by plants in the form of inorganic nitrates or nitrites.

**Reason (R):** The soil is the nearest and richest source of raw materials like nitrogen, phosphorus and other minerals for the plants.

**Answer:** (b) Both Assertion (A) and Reason (R) are true but Reason (R) is not the correct explanation of Assertion (A).

**Q7. Assertion (A):** In humans, major amount of water is absorbed by tubular part of nephron.

**Reason (R):** The amount of water reabsorbed depends on how much dissolved waste is to be excreted from the body.

**Answer:** (b) Both Assertion (A) and Reason (R) are true but Reason (R) is not the correct explanation of Assertion (A).

**Q8. Assertion (A):** Resins and gums are stored in old xylem tissue in plants.

**Reason (R):** Resins and gums facilitate transport of water molecules.

**Answer:** (c) Reason is false because resins and gums are waste products and do not facilitate the transport of water molecules.

**Q9. Assertion (A):** Plants lack excretory organs.

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

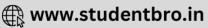
Answer: (b)

**Q10. Assertion (A):** In anaerobic respiration, one of the end product is alcohol.

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

Answer: (a)





**Q11. Assertion (A):** In plants there is no need of specialised respiratory organs.

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

Answer: (a)

**Q12. Assertion (A)**: Bile is essential for digestion of lipids.

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

Answer: (c)

**Q13. Assertion (A)**: Carbohydrate digestion mainly takes place in small intestine.

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

Answer: (c)

**Q14. Assertion (A)**: Aerobic respiration requires less energy as compared to anaerobic respiration.

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

Answer: (d)

**Q15. Assertion (A):** Arteries are thick-walled and elastic in nature.

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

Answer: (b)

**Q16. Assertion (A):** Human heart is four-chambered.

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

Answer: (c)

**Q17. Assertion (A):** Energy is required to carry out different life processes.

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

Answer: (a)

**Q18. Assertion (A):** Rings of cartilage are present in the throat,

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

Answer: (a)



Q19. Assertion (A): Pyruvate is a six-carbon molecule

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

Answer: (d)

**Q20. Assertion (A):** Molecular movements are needed for life.

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

Answer: (a)

**Q21. 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.

Answer: (c)

**Q22. 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.

Answer: (b)

**Q23. Assertion (A):** The purpose of making urine is to filter out undigested food from intestine

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

Answer: (d)

**Q24. 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.

Answer: (a)

**Q25**. **Assertion (A):** In human beings, the respiratory pigment is haemoglobin

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

Answer: (c)



**Q26**. **Assertion (A):** The plants store some of the waste products in their body parts.

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

Answer: (b)

**Q27. Assertion (A):** The movement of water and dissolved salts in xylem is always upwards.

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

Answer: (a)

**Q28. Assertion (A):** Photosynthesis takes place in green parts of the plants.

**Reason (R):** Photosynthesis always takes place in leaves.

Answer: (c)

**Q29. Assertion:** The average number of heart beat of a person at rest is about 80 per minute.

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

Answer: (d)

**Q30. Assertion (A):** Ureters are the tubes which carry urine from kidneys to the bladder.

**Reason (R):** Urine is stored in the urethra.

Answer: (c)

**Q31. Assertion (A):** Ventricles have thicker walls than auricles.

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

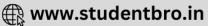
Answer: (a)

**Q32. Assertion (A):** Capillaries are the thinnest blood vessels.

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

Answer: (b)





**Q33. Assertion (A):** Blood takes up oxygen from the alveolar air and release CO2 during exchange.

**Reason (R):** 'The concentration of 0, is more in alveolar air.

Answer: (b)

**Q34.** Assertion: The large intestine is the largest part of the alimentary canal.

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

Answer: (d)

**Q35. Assertion (A):** Most of the living organisms carry out aerobic respiration.

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

Answer: (b)

**Q36. Assertion (A):** The Bowman's capsule and the tubule together make a nephron.

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

Answer: (c)

**Q37. Assertion (A):** Pancreatic juice digests starch, proteins and fats.

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

Answer: (a)

**Q38. Assertion (A):** The accumulation of lactic acid in the muscles causes muscle cramps.

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

Answer: (a)

**Q**39. **Assertion (A):** Phloem helps in translocation of food from the leaves.

**Reason (R):** Phloem provides mechanical support to plant.

Answer: (c)

**Q40. Assertion (A):** Trachea does not collapse, when there is no air in it.

Reason: Trachea is supported by cartilage.-X-X-X-

Answer: (a)



