

1. A bird has no teeth but can still digest hard grains effectively. Which combination best explains this?

- A. Crop and gizzard help in processing and grinding food**
- B. Lungs grind the food**
- C. The beak converts food into blood**
- D. The intestine performs chewing**

2. A student compares a cow with a human and notices that the cow has a specialised digestive system for plant food. What is the main reason?

- A. Plant food contains tough cellulose that requires specialised digestion**
- B. Humans cannot swallow food**
- C. Cows do not need nutrients**
- D. Grass contains no chemical energy**

3. A runner experiences muscle fatigue after very intense exercise. Which explanation best connects the event with respiration?

- A. When oxygen supply becomes insufficient, anaerobic respiration may occur in muscles and contribute to fatigue**
- B. Muscles completely stop producing energy**
- C. Digestion immediately stops**
- D. The lungs begin digesting glucose**

4. A cow is given hard grass and a bird is given hard grains. Both foods need mechanical processing. Which statement correctly explains how this is achieved?

- A. Cow uses rechewing and stomach compartments; bird uses its gizzard**
- B. Cow uses its gizzard; bird uses rumination**
- C. Both animals use rumination**
- D. Both animals use their teeth to grind food inside the stomach**

5. Consider the following situations:

- 1. A bulb glows only when a switch is closed.**
- 2. A teenager experiences rapid physical changes.**
- 3. A cow rechews swallowed food.**

4. A runner's breathing rate increases.

Which option correctly connects each observation with its underlying concept?

A. Digestion → circuit completion → respiration → adolescence

B. Circuit completion → adolescence → rumination → increased oxygen demand

C. Adolescence → digestion → circuit completion → metals

D. Respiration → metals → adolescence → circuit completion

6. A teacher gives four students the following statements:

- P: A closed circuit provides a continuous conducting path.**
- Q: Adolescence involves physical changes associated with hormonal activity.**
- R: Aerobic respiration requires oxygen.**
- S: Ruminants rechew partially digested food.**

Which student has identified only scientifically correct statements?

A. P, Q and R only

B. Q and S only

C. P, Q, R and S

D. P and S only

7. A student argues, “Since both cows and birds eat plants, they should have the same digestive organs.” Which observation best disproves the student's argument?

A. Both animals breathe oxygen

B. Birds have a crop and gizzard, whereas cows have a specialised multi-compartment stomach

C. Both animals require water

D. Both animals produce energy from food

8. A bird and a cow are both given the same leafy plant material. The cow is better adapted to obtain nutrients from the fibrous material because its

digestive system supports microbial breakdown of cellulose. The bird's digestive system is better suited to processing foods such as grains and seeds.

Which principle does this comparison demonstrate?

- A. All herbivorous animals have identical digestive systems.**
- B. Digestion depends only on the size of an animal.**
- C. Mechanical digestion is more important than chemical digestion in every animal.**
- D. The structure and function of a digestive system are adapted to the animal's food habits.**

9. A material is shiny, can be drawn into thin wires and allows electric current to pass through it easily. Which combination of properties strongly suggests that it is a metal?

- A. Dull, brittle and insulating**
- B. Soft, non-lustrous and insulating**
- C. Lustrous, ductile and conducting**
- D. Brittle, transparent and conducting**

10. Two wires of equal length and thickness are connected separately to the same battery. Wire P makes the bulb glow brighter than wire Q. Which inference is most reasonable?

- A. P offers less resistance to the flow of current than Q**
- B. Q must be a better conductor than P**
- C. P cannot be a metal**
- D. Both wires must have exactly the same electrical properties**

11. An electrician accidentally touches the metal part of a conducting wire with a wet hand. Why can this be dangerous?

- A. Water containing dissolved substances can provide a conducting path for current**
- B. Water always stops electricity**
- C. Metals become non-metals when wet**
- D. Electricity cannot pass through the human body**

12. A meal contains starch, protein and fat. Which statement correctly describes their digestion?

- A. All three are completely digested in the mouth**
- B. Protein digestion begins in the large intestine**
- C. Fat digestion occurs only in the mouth**

D. Starch digestion begins in the mouth, protein digestion begins mainly in the stomach, and digestion continues in the small intestine

13. A person inhales deeply. Which combination is correct?

- A. Diaphragm relaxes + moves upward**
- B. Diaphragm contracts + moves downward**
- C. Diaphragm contracts + moves upward**
- D. Diaphragm relaxes + moves downward**

14. $A + \text{CuSO}_4 \rightarrow \text{FeSO}_4 + B$

What must be true about A and B?

- A. B is Zn and A Fe**
- B. A is Fe and B is Cu**
- C. A is Zn and B is Cu**
- D. A is Fe and B is Zn**

15. Two meals contain the same amount of food, but Meal A contains a variety of grains, pulses, vegetables, fruits and dairy products while Meal B mainly contains one type of food. Which is more likely to be balanced?

- A. Meal A, because it provides a wider variety of nutrients**
- B. Meal B, because one food contains every nutrient**
- C. Both must have exactly the same nutritional value**
- D. Meal B, because variety reduces nutrition**

One Word Answer: (16 to 20)

16. Write name of hormone controls the development of male secondary sexual characteristics.

17. A child grows slowly for several years and then suddenly becomes much taller within a short period. This rapid increase in height is called _____

18. X remains colourless in an acidic solution but changes to pink in basic conditions. Identify X

19. A burning matchstick able to burn paper. It raises the paper to its _____

20. The biological term for the beginning of menstruation at puberty.

21. Assertion (A): Iron cannot be cut easily with an ordinary knife.

Reason (R): Iron is considerably harder than alkali metals such as sodium and potassium.

22. Assertion (A): Curdling of milk is a physical change.

Reason (R): The composition and properties of milk change during curdling.

23. Assertion (A): A turmeric stain on cloth can turn reddish-brown when soap solution is applied.

Reason (R): Soap solution is generally basic in nature.

24. Assertion (A): Aluminium is used for making cooking utensils.

Reason (R): Aluminium is a good conductor of heat and has a relatively high melting point.

25. Assertion (A): Plastic is used around electrical appliances to reduce the risk of electric shock.

Reason (R): Plastic is generally an electrical insulator.