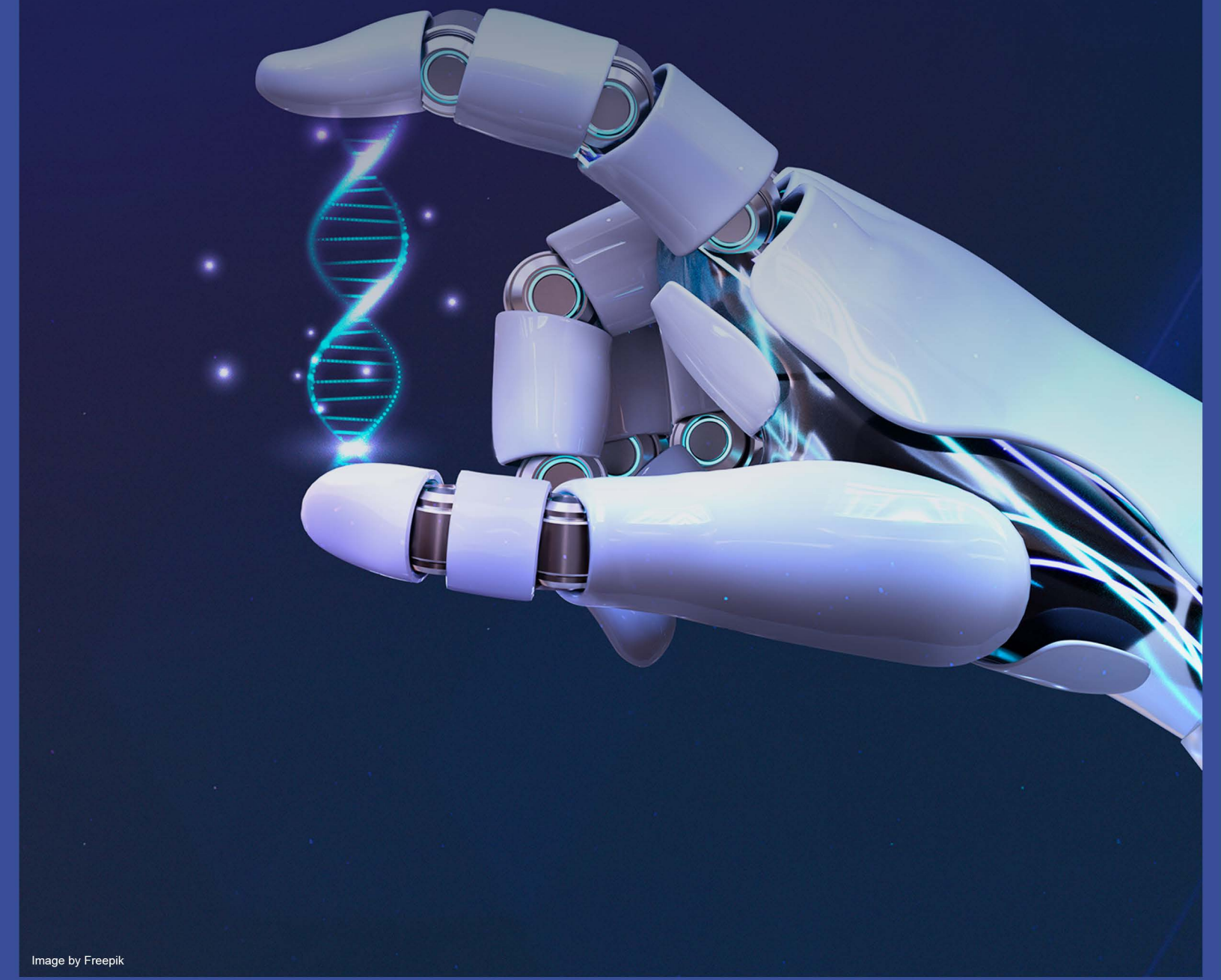
CAREERS360

CBSE Class 12 Biology

Question Bank



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BIOLOGY- CLASS 10th

CHAPTER: CONTROL AND CO-ORDINATION

Very Short Answer Type Question [1 Mark]

1. Name different parts of hind brain.
2. Define “reflex”.
3. Name any two environmental triggers which change the direction of plant parts.
4. How plant cells change their shape?
5. Define phototropism.
6. Define geotropism.
7. Which mechanism regulates the action of hormones?
8. Define puberty.
9. ……is the main thinking part of the brain.
10. Bumpy structure that protects the spinal cord is…….
11. Directional movement of seedling is caused by…….
12. Growth of pollen tubes towards ovule is an example of……
13. Wilting of leaves is due to……..
14. …….. is due to the deficiency of growth hormone in childhood.
15. Adrenaline is secreted by ……. gland.
16. Iodine is necessary for: (Choose the correct option)

    (i) Pineal gland

(ii) Thyroid gland

(iii) Parathyroid gland

(iv) Adrenal gland

17. Which of the following hormones is responsible for cell division: (Choose the correct option)

(i) Auxin

(ii) Cytokinin

(iii) Ethylene

(iv) Abscisic acid

18. Pea plants climb up other plants by means of: (Choose the correct option)

(i) Axillary buds

(ii) Tendrils

(iii) Stipules

(iv) Thorns

19. The gap between neurons is called: (Choose the correct option)

(i) Dendrite

(ii) Synapse

(iii) Axon

(iv) Myelin sheath

20. Which of the following is the male sex hormone: (Choose the correct option)

(i) Oestrogen

(ii) Testosterone
(iii) Testes
(iv) Insulin

21. Taste is detected by gustatory receptors. (True/False)
22. Smell is detected by olfactory receptors. (True/False)
23. Goitre is caused due to the deficiency of thyroxine. (True/False)
24. Growth of our arms and fingers occurs in a haphazard manner. (True/False)
25. Movement of sunflower in response to day or night comes under the category of slow movements. (True/False)
26. Assertion: Abscisic acid is responsible for wilting of leaves.
    Reason: It is a growth inhibitor.
27. Assertion: In 'Touch me Not' plant, drooping of leaves occur on touching it.
    Reason: Plant cells change their shape by changing the amount of water (turgor changes) in them.
28. Assertion: Positive phototropism means movement towards light.
    Reason: When sunlight falls on one side of plant, the auxin diffuses towards the sunny side of shoot. Auxin concentration stimulates cells to grow longer and stem appears bending towards sunlight.
29. Assertion: A neurons transmits message in both directions.
    Reason: The response is slow and produced by all cells of target tissues.
30. Assertion: Brain plays a secondary role in reflex action, when our hand touches a hot plate. Reason: In reflex action, the stimulus received by the spinal cord that sends the response. The action is registered in cerebral brain just for memory.

Short Answer Type Questions [2 Marks]

1. How do the tendrils help plants to cling to other objects?
2. How many types of movements are shown by plants? Explain with examples.
3. What are phototropic movements. Give examples.
4. What are phytohormones. Name any two phytohormones.
5. What do the squirrels experience when they are in scary situation?
6. Name the disease caused by the deficiency of iodine in our body. Write one of its symptoms.
7. Writ ethe functions of hypothalamus.
8. State two functions of auxins and gibberellins.
9. Write the role of nervous system in the body.
10. List the components of nervous system.
11. Name five major senses of man.
12. Write two differences between exocrine and endocrine glands.
13. How does chemical co-ordination take place in animals?
14. What is the difference between reflex action and walking?

15. What are the parts of the fore brain?

Short Answer Type Questions [3 Marks]

1. Draw a well labelled diagram of the structure of neuron.
2. Name the hormones secreted by thyroid, parathyroid and pancreas.
3. List the functions of testosterone and oestrogen.
4. What are involuntary actions? Write three examples.
5. Write name of three hormones secreted by the pituitary gland.
6. Give an account of any three diseases caused by the excess and deficit secretions of various endocrine glands.
7. How does chemical coordination occur in plants?
8. Which signals will get disrupted in case of a spinal cord injury?
9. Write one example each of the following tropic movements:
   (i) Positive phototropism
   (ii) Negative phototropism
   (iii) Positive geotropism
   (iv) Negative geotropism
   (v) Hydrotropism
   (vi) Chemotropism
10. Name the growth promoters and growth inhibitors present in plants. Write the function of any two.
11. Which animal or plant hormone is associated with the following:
    (i) Increased sugar level in blood.
    (ii) Changes at puberty in boys
    (iii) Inhibits growth of plants.
    (iv) Rapid development of fruits
    (v) Dwarfism
    (vi) Goitre
12 How is the movement of 'Touch me not plant' different from the movement of roots towards gravity?
12. Why is it advisable to use iodised salt in our diet?
13. (i) Is there a difference in how sugar and food taste if your nose is blocked?
    (ii) Name the receptors which help in detecting taste.
14. How does the conduction of messages take place in?
    (i) Nervous system
    (ii) Endocrine system
15. Explain geotropism with the help of labelled diagram.

Long Answer Type Question [5 Marks]

1. Describe the scheme of how nervous impulses travel in the body.
2. How does the nervous tissue cause action?

3. What is the difference between the manner in which movement takes place in a sensitive plant and movement in our legs?
4. State how concentration of auxin stimulates the cells to grow longer on the side of the shoot which is away from light?
5. Nervous and hormonal system together perform the function of control and coordination in human beings. Justify the statement.
6. Write the names of five animal hormones, endocrine glands that secrete them and their specific functions.
7. (i) Do you know anyone in your family or friends who has been advised to take less sugar by the doctor and why?
   (ii) Name the hormone which regulates blood sugar levels.
   (iii) Name the gland from where it is secreted.

   (iv) Name the disease associated with imbalance in the blood sugar levels.
8. Draw a well labelled diagram of the human brain.
9. What are the main parts of brain? Write their functions.
10. State the functions of major plant hormones.
11. How are involuntary action and reflex action different from each other?
12. How does phototropism occur in plants? Write an experiment to show the growth of plant towards light.
13. What is the function of receptors in our body? Think of situations where receptors do not work properly, what problems are likely to arise?
14. What is meant by reflex-action? With the help of a labelled diagram trace the sequence of events which occur when we touch a hot object.
15. What are the functions carried out by the nervous system in human beings?

CLASS 10th BIOLOGY

CHAPTER: HOW DO ORGANISMS REPRODUCE

Very Short Answer Type Question [1 Mark]

Question 1-5: Fill in the blanks

1. Nutrition, Respiration and ……. are essential life processes.
2. The information source for making proteins is……..
3. In built tendency for variation during reproduction leads to……
4. …….. is commonly known as bread mould.
5. In……., splitting of 2 cells take place in any plane.
6. Define niche.
7. What happens to a slice of bread kept at cool, dark and moist place for 2-3 days?
8. Name any four sexually transmitted diseases.
9. Define seed.
10. Define fruit.

Question 11-15: Multiple Choice Questions- Choose the most appropriate option

11. Kala azar is:

    (i) Bacterial disease

    (ii) Viral disease

    (iii) Protozoan disease

    (iv) Fungal disease

12. Multiple fission occurs in:

(i) *Amoeba*

(ii) *Yeast*

(iii) *Plasmodium*

(iv) *Leishmania*

13. The root system grows out from:

(i) Plumule

(ii) Radicle

(iii) Embryo

(iv) All of these

14. Permanent fertility control in male is achieved by:

(i) Tubectomy

(ii) Vasectomy

(iii) Anatomy

(iv) Pills

15. The essential parts of a flower are:

(i) Sepals and petals

(ii) Sepals and stamens

(iii) Petals and pistils

(iv) Stamens and pistils

Question 16-20: Mark true or false

16. Papaya is a unisexual flower.
17. Progesterone is secreted by testes.
18. Yeast reproduces by regeneration.
19. Pistil is the female part of the plant.
20. AIDS is a bacterial disease.

Question 21-25: Assertion-Reason Type Questions

21. ASSERTION: Gonorrhoea is a sexually transmitted disease.
    REASON: It is caused by virus.

22. ASSERTION: Ovary releases one egg every month.
    REASON: The lining of uterus is always thick and spongy.

23. ASSERTION: Plants raised by vegetative propagation can bear flower and seed earlier than those produced from seeds.
    REASON: Plants which have lost the capacity to bear viable seeds, can propagate through vegetative propagation.

24. ASSERTION: In male reproductive system, transport of sperm takes place in a fluid which also provides nutrition.
    REASON: The secretions of prostate glands and seminal vesicles constitute the semen.

25. ASSERTION: *Amoeba* reproduces by binary fission.
    REASON: All unicellular organisms reproduce by asexual method

Short Answer Type Questions [2 Marks]

1. What is multiple fission? Give an example.
2. Name two unisexual and two bisexual flowers.
3. Name any four pollinating agencies.
4. Define placenta. Write its function.
5. Define regeneration. Explain with example.
6. How is variation beneficial to the species?
7. Write differences between stamens and carpels.
8. Write any two differences between vas deferens and fallopian tube.
9. Draw a well labelled diagram of budding in *Hydra.*
10. Draw a well labelled diagram of regeneration in *Planaria.*
11. Write differences between external and internal fertilization.
12. Name the various organs of female reproductive system.
13. Write the function of seminal vesicles and prostate gland.
14. Draw a labelled diagram of spore formation in *Rhizopus.*
15. Write any two advantages of vegetative reproduction.

Short Answer Type Questions [3 Marks]

1. List and explain in brief three methods of contraception.

2. Name the two types of germ-cells present in human beings. How do they structurally differ from each other? Give two differences.

3. List the parts of human male reproductive system which contribute fluid to the semen. State two advantages semen offers to the sperms.

4. What are the male and female gonads called in human beings? Mention their functions.

5. Explain post-fertilization changes in plants.

6. Define the term puberty. List two changes observed in girls at the time of puberty.

7. State differences between sperms and eggs of humans.

8. (i) What is fragmentation in organism?
   (ii) Name a multicellular organism which reproduces by this method.

9. Explain the following methods of contraception giving one example of each:
   (i) Barrier method
   (ii) Hormonal imbalance method
   (iii) Surgical method.

10. (i) List any four reasons for adopting contraceptive methods.
    (ii) If a woman is using Copper-T, will it help in protecting her from sexually transmitted diseases? Why?

11. Write any three differences between binary fission and multiple fission.

12. (i) Explain the role of placenta in the development of human embryo.
    (ii) Give example of two bacterial and two viral sexually transmitted diseases. Name the most effective contraceptive which prevents spread of such diseases.

13. Write the full form of DNA. Name the part of the cell where it is located. Explain its role in the process of reproduction of the cell.

14. (a) Explain the terms:
    (i) Implantation (ii) Placenta
    (b) What is the average duration of human pregnancy?

15. Define menstruation and menopause.

Long Answer Type Question [5 Marks]

1. State in brief the changes that take place in a fertilised egg (zygote) till birth of the child in the human female reproductive system. What happens to the egg when it is not fertilised?

2. Draw a well labelled diagram of male reproductive system.

3. Explain male reproductive system.

4. What is AIDS? What is the full form of AIDS? Which microbe is responsible for AIDS infection? State one mode of transmission of this disease. Explain in brief one measure for the prevention of AIDS.

5. Explain in brief events from pollination to fertilization in angiosperms with the help of well labelled diagram.

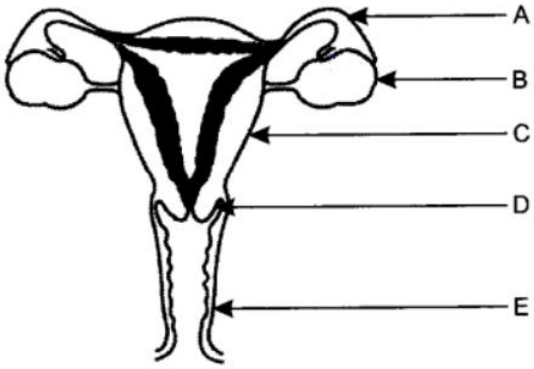
6. Draw the longitudinal section of the flowers showing its different whorls. Write the function of any two.

7. Draw a well labelled diagram of an ovule. Where is embryo sac found. How many cells are present in an embryo sac?

8. What is asexual reproduction. Write any four modes of asexual reproduction in lower organisms.

9. What is vegetative reproduction. Explain in brief various modes of vegetative propagation in plants.

10. (a) Name the parts labelled A, B, C, D and E.



(b) Where do the following functions occur?
(i) Production of an egg
(ii) Fertilisation
(iii) Implantation of zygote.

(c) What happens to the lining of uterus:
(i) before release of a fertilised egg?
(ii) if no fertilisation occurs?

CHAPTER 10

LIFE PROCESSES

Very Short Answer Type Question [1 Mark]

Question 1- 11: Multiple Choice Questions- Choose the most appropriate option

1. Woody plants carry gaseous exchange through

   (a) Root hair
   b) Lenticels
   c) Stem hair
   d) Epidermal cells

2. Which of the following are energy foods?
   (a) Carbohydrates and fats
   (b) Proteins and mineral salts
   (c) Vitamins and minerals
   (d) Water and roughage

3. In which mode of nutrition an organism derives its food from the body of another living organism without killing it?
   (a) Saprotrophic nutrition
   (b) Parasitic nutrition
   (c) Holozoic nutrition
   (d) Autotrophic nutrition

4. In amoeba, food is digested in the:
   (a) food vacuole
   (b) mitochondria
   (c) pseudopodia
   (d) chloroplast

5. The procedure used for cleaning the blood of a person by separating urea from it is called:
   (a) osmosis
   (b) filtration
   (c) dialysis
   (d) double circulation

6. The contraction and expansion movement of the walls of the food pipe is called:
   (a) translocation
   (b) transpiration

(c) peristaltic movement
(d) digestion

7. What are the products obtained by anaerobic respiration in plants?
   (a) Lactic acid + Energy
   (b) Carbon dioxide + Water + Energy
   (c) Ethanol + Carbon dioxide + Energy
   (d) Pyruvate

8. Which part of nephron allows the selective reabsorption of useful substances like glucose, amino acids, salts and water into the blood capillaries?
   (a) Tubule
   (b) Glomerulus
   (c) Bowman's capsule
   (d) Ureter

9. Name the substances whose build up in the muscles during vigorous physical exercise may cause cramps?
   (a) Ethanol + Carbon dioxide + Energy
   (b) Lactic acid + Energy
   (c) Carbon dioxide + Water + Energy
   (d) Pyruvate

10. Which is the correct sequence of body parts in the human alimentary canal?
    (a) Mouth → stomach → small intestine → large intestine → oesophagus
    (b) Mouth → oesophagus → stomach → small intestine → large intestine
    (c) Mouth → stomach → oesophagus → small intestine → large intestine
    (d) Mouth → oesophagus → stomach → large intestine → small intestine

11. Identify the correct path of urine in the human body.
    (a) Kidney → urinary bladder → urethra → ureter
    (b) Urinary bladder → ureter → kidney → urethra
    (c) Kidney → ureter → urethra → urinary bladder
    (d) Kidney → ureter → urinary bladder → urethra

12. The exit of food from the stomach is regulated by a ……. muscle.

13. ……. is the longest part of the alimentary canal.

14. The process of breakdown of glucose, (a six-carbon molecule) into pyruvate, (a three-carbon molecule), takes place in …….

15. Breaking of pyruvate using oxygen takes place in…….

16. The blood has ……. cells which plug the leakage in the vessels by helping to clot the blood at the point of injury.

17. Mention the raw materials required for photosynthesis.

18. What are the final products after digestion of carbohydrates and proteins?

19. Name the green dot like structures in some cells observed by a student when a leaf peel was viewed under a microscope. What is this green colour due to?

20. Name the process in plants where water is lost as water vapour.

21. What is translocation in plants?

22. Match column A with column B:

Column (A)	Group (B)
(a) Trypsin	(i) Pancreas
(b) Amylase	(ii) Liver
(c) Bile	(iii) Gastric glands
(d) Pepsin	(iv) Saliva

23. Name the component of blood that helps in the formation of blood clot in the event of a cut.

24. What will happen to a plant if its xylem is removed?

25. Name the mode of nutrition in human beings?

26. Name the cartilaginous flap which closes the glottis to check the entry of food into it during swallowing

27. Name the form in which the energy derived from the food is stored in humans.

28. Define photosynthesis.

29. Name the tissue that transports food from leaves to other parts of plants.

30. "The breathing cycle is rhythmic whereas exchange of gases is a continuous process". Justify this statement.

31. Define transpiration?
32. Name the tissue which transports water and minerals in a plant?

33. Where from autotrophs obtain CO_2 and H_2O to make their food?
34. Which pancreatic enzyme is effective in digesting protein?
35. Name the tissue which transports soluble products of photosynthesis in a plant.
36. Which enzyme present in saliva breaks down starch?
37. Match group A with group B:

Group (A)	Group (B)
(a) Autotrophic nutrition	(i) Leech
(b) Heterotrophic nutrition	(ii) Paramecium
(c) Parasitic nutrition	(iii) Deer
(d) Digestion in food vacuoles	(iv) Green plant

38. What is the role of saliva in the digestion of food?
39. Name the stored food of animals.
40. How does transport of water occur at night in the absence of transpiration?
41. Name the component of food not digested in stomach.

42. Mention the site of complete digestion of carbohydrates, proteins and fats in humans.
43. How do plant cells change their shape?
44. Name the form in which energy derived from food is stored in humans.
45. Name the process used by single celled organism for taking in food, exchange of gases or removal of wastes
46. Identify the category in which organisms using carbon dioxide and water as food are placed?
47. Match column A with B:

Column (A)	Column (B)
(a) Phloem	(i) Excretion
(b) Nephron	(ii) Translocation of food
(c) Veins	(iii) Clotting of blood
(d) Platelets	(iv) Deoxygenated blood

Question 48-57: Assertion-Reason Type Questions. Use the following key to choose the appropriate answer:

(A) If both assertion and reason are CORRECT and the reason is the CORRECT explanation of the assertion.

(B) If both assertion and reason are CORRECT, but the reason is NOT THE CORRECT explanation of the assertion.

(C) If the assertion is CORRECT, but the reason is INCORRECT

(D) If the assertion is INCORRECT, but the reason is CORRECT

(E) If both assertion and reason are INCORRECT QUESTIONS

48. ASSERTION: Molecular movements are needed for life.
    REASON: Body structures made up of these molecules need continuous repair and maintenance.

49. ASSERTION: Diffusion does not meet high energy requirements of multi-cellular organisms.
    REASON: Diffusion is a fast process but only occurs at the surface of the body.

50. ASSERTION: The opening and closing of the pore is a function of the guard cells.
    REASON: Stomatal pores are the site for exchange of gases by diffusion.

51. ASSERTION: Saliva contains pepsin enzyme.
    REASON: Pepsin digests lipids.

52. ASSERTION: The inner lining of the small intestine has numerous finger-like projections called villi.
    REASON: The villi increase the surface area for absorption.

53. ASSERTION: Pyruvate is a six-carbon molecule.
    REASON: It is prepared in the cytoplasm as the first step to cellular respiration.

54. ASSERTION: Rings of cartilage are present in the throat.
    REASON: These ensure that the air-passage does not collapse.

55. ASSERTION: In human beings, the respiratory pigment is haemoglobin.
    REASON: It is a type of protein which has high-affinity carbon dioxide.

56. ASSERTION: Arteries are thick-walled and elastic in nature.
    REASON: Arteries have to transport blood away from the heart.

57. ASSERTION: The purpose of making urine is to filter out undigested food from intestine.
    REASON: Kidneys filter the waste and produce urine.

Short Answer Type Questions [2 Marks]

1. What are enzymes? Name any one enzyme of our digestive system and write its function.

2. Explain the process of breakdown of glucose in a cell
(i) in the presence of oxygen,
(ii) in the absence of oxygen.

3. (i) Write the balanced chemical equation for the process of photosynthesis,
(ii) When do the desert plants take up carbon dioxide and perform photosynthesis?

4. What would be the consequences of deficiency of haemoglobin in your body?

5. What is saliva? State its role in the digestion of food.

6. Explain the significance of peristaltic movement that occurs all along the gut during digestion.

7. Name the components of blood which transport
(i) Food, carbon dioxide and nitrogenous wastes
(ii) Oxygen

8. Even when we are not doing any apparent activity, we need energy. Justify giving reason.

9. State any two differences between autotrophic nutrition and heterotrophic nutrition.

10. State the basic difference between the process of respiration and photosynthesis.

11. Which processes would you consider essential for maintaining life?

12. How are water and minerals transported in plants?

13. How is food transported in plants?

14. What are the necessary conditions for autotrophic nutrition and what are its by-products?

15. Why do herbivores have longer, small intestine than carnivores?

16. How are the alveoli designed to maximize the exchange of gases?

17. Leaves of a healthy potted plant were coated with petroleum jelly. How will it affect the plant? State two reasons.

18. (i) Name two waste products which are stored in old xylem in plants.
(ii) Name the process by which plants get rid of excess water. Name the pores through which this process takes place.

19. Which gland secretes a hormone when the blood sugar rises? Name the juices released by this organ.

20. The rate of breathing in aquatic organisms is much faster than that seen in terrestrial organisms. Give reason. State the pathway of air from nostrils to the lungs in human beings.

21. (i) State the purpose of formation of urine.
(ii) What will happen if there is no tubular reabsorption in the nephrons of kidney?

22. What is the advantage of a four chambered heart?

23. Ventricles have thicker muscular walls than atria. Give reason.

24. What happens to glucose, amino acids, salts and water that enter the nephron along with filtrate.

25. "Lymph is another type of fluid involved in transportation". Justify the statement by explaining the process.

26. (i) Name two different ways in which glucose is oxidised to provide energy in various organism.

(ii) Write any two differences between the two oxidations of glucose in organisms.

27. What will happen to guard cells and the stomatal pore when water flows into guard cell.

28. How is required pH maintained in the stomach and small intestine?

29. What do the following transport?
(i) Xylem
(ii) Phloem
(iii) Pulmonary vein
(iv) Vena cava.

Short Answer Type Questions [3 Marks]

1. Draw a diagram of human excretory system and label kidneys, ureters on it.

2. (i) State reason for the following:
(a) Rings of cartilage are present in the trachea.
(b) Plants look green in colour.

(ii) Write other names of the following:
(a) Alveolar sac
(b) Voice box

3. Name the type of asexual reproduction in which two individuals are formed from a single parent and the parental identity is lost. Write the first step from where such a type of reproduction begins. Draw first two stages of this reproduction.

4. (i) What happens to the heart when muscles work harder?
(ii) Which body system is directly affected when a person has heart disease?
(iii) Which cells increase in number during infection?

5. Name the intermediate and the end products of glucose breakdown in aerobic respiration.

6. Name the acid presents in the following:
(i) Tomato (ii) Vinegar (iii) Tamarind

7. Give reasons for the following:
(i) Arteries are thick walled.
(ii) Plants have low energy needs.

8. State the role of the following in human digestive system:
(i) Digestive enzymes (ii) Hydrochloric acid (iii) Villi

9. How is small intestine designed to absorb digested food?

10. (i) Name the blood vessel that brings oxygenated blood to the human heart.
(ii) Which chamber of the heart receives oxygenated blood?
(iii) Explain how is the oxygenated blood from this particular chamber sent to all the body parts?

11. How does respiration in plants differ from that in animals?

12. Draw a diagram of human respiratory system and label on it:
(i) Diaphragm (ii) Larynx

13. (i) Name the site of exchange of material between the blood and surrounding cells.

(ii) Draw a schematic representation of transport and exchange of oxygen and carbon dioxide in human body.

14. List in tabular form three differences between arteries and veins.

15. Explain the schematic representation of gaseous exchange in tissues.

16. (i) What is the role of HCl in our stomach?
    (ii) What is emulsification of fats?
    (iii) Which protein digesting enzyme is present in pancreatic juice?

17. List the three kinds of blood vessels of human circulatory system and write their functions in tabular form.

18. What are the functions of lymph in our body?

19. What is “translocation”? Why it is essential for plants?

20. Give an experiment to prove the essentiality of light for photosynthesis.

21. With the help of labelled diagram, discuss the structure of cross – section of leaf.

22. Dark reaction of photosynthesis does not need light. Do plants undergo dark reaction at night explain.

23. Differentiate between inhalation and exhalation.

24. List in tabular form two ways in which transpiration is different from translocation,

25. What is role of skin, lungs and intestine in the process of excretion in man?

26. Explain the structure of chloroplast.

27. List the major steps involved in formation of urine and state in brief their functions.

28. Name three different glands associated with the digestive system in humans. Also name their secretions.

29. (i) What is translocation? Why is it essential for plants?
    (ii) Where are the substances translocated by the phloem delivered?

30. (i) Explain how the separation of oxygenated and deoxygenated blood is useful in humans?
(ii) Why is double circulation of blood necessary in humans?

31. How does opening and closing of stomata take place?

32. (i) Name the process by which autotrophs prepare their food.
(ii) List the three events which occur during this process.
(iii) State two sources from which plants obtain nitrogen for the synthesis of proteins and other compounds.

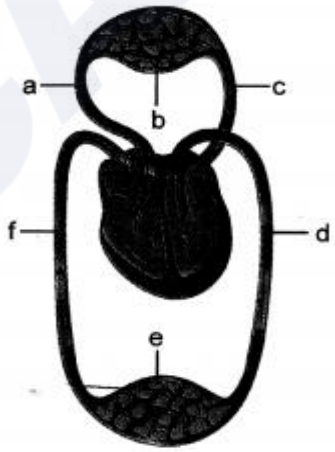
33. Name the products formed after complete digestion of carbohydrates, proteins and fats in small intestine.
34. (i) It was found that the leaves of a plant started getting wilted. Name the tissue which might have been blocked. State the role of this tissue in plants.
(ii) Name the physical phenomenon by which exchange of gases occurs between plant body and atmosphere.

35. Give reasons
(i) Lungs always contain residual volume
(ii) Nostrils are lined with mucus

Long Answer Type Question [5 Marks]

1. (i) Explain how does the exchange of gases occur in plants across the surface of stems, roots and leaves.
(ii) How are water and minerals transported in plants?

2. (i) In the given representation of transport and exchange of oxygen and carbon dioxide in human heart label the parts marked as a, b, c, d, e, and f.



(ii) Write two points of difference between pulmonary artery and pulmonary vein.

3. (i) Draw a diagram of human alimentary canal and label the following parts:
   (a) largest gland.
   (b) Gland that secretes digestive enzymes and hormone.
   (c) Part where HCl is produced.
   (d) Part where digested food is absorbed.
   (ii) What are villi? Explain their function in the digestive system.

4. What are the components of the transport system in human beings? What are the functions of these components?

5. (i) Draw diagram of human alimentary canal and label the following:

    1. Part in which starch digestion starts
    2. Part in which bile is stored
    3. Part in which nutrients are absorbed
    4. Part in which water is absorbed.

(ii) Mention the role of hydrochloric acid in stomach,
(iii) What function is served by

    1. Gastric sphincter
    2. Anal sphincter.

6. (i) Draw the diagram of human heart and label the following parts which

    1. Receives deoxygenated blood from vena cava
    2. Sends deoxygenated blood to lungs through pulmonary artery
    3. Receives oxygenated blood from lungs and
    4. Sends oxygenated blood to all parts of the body through aorta.

   (ii) What are the components of blood?
   (iii) Name the respiratory pigment in human beings and discuss its role.

7. List and describe in brief any five functions of blood.

8. (i) Draw a neat diagram of human respiratory system and label the following parts: Rings of cartilage, Lung, Bronchi, Alveolar sac.
   (ii) Name any two parasitic plants and two parasitic animals.

9. (i) Draw a diagram of an excretory unit of human kidney and label the following: Bowman's capsule, Glomerulus, collecting duct, Renal artery.

(ii) Write the important function of structural and functional unit of kidney.
(iii) Write any one function of an artificial kidney

10. Draw the diagram of sectional view of human heart and on it name and label the following parts:
(i) The chamber of the heart that pumps out deoxygenated blood.
(ii) The blood vessel that carries away oxygenated blood from the heart.
(iii) The blood vessel that receives deoxygenated blood from the lower part of our body.

11. In human alimentary canal, name the site of complete digestion of various components of food. Explain the process of digestion.

12. Why and how does water enter continuously into the root xylem of plants?

13. What are differences between aerobic and anaerobic respiration? Name some organisms that use anaerobic mode of respiration?

14. Discuss the major steps involved in process of nutrition in human beings.

15. Explain the process of nutrition in *Amoeba*.

16. Describe the structure and functioning of nephron.

17. (i) Draw a diagram to show open stomatal pore and label on it:
(a) guard cells
(b) chloroplast
(c) State two functions of stomata.
(ii) How do guard cells regulate the opening and closing of stomatal pore?

18. Explain and draw the well labelled diagram of human respiratory system.

19. What are the various modes of excretion in plants?

20. (i) Explain with the help of diagram, how amoeba takes its nutrition.
(ii) Assume that you are a veterinary surgeon and you had removed a good length of the small intestine of a bear that was suffering from an intestinal tumour. Now, would you suggest a plant based or a meat-based diet for the bear after its recovery? Give reason for your answer.
(iii) Do you think plant-based food should be preferred over non-vegetarian food?

21. (i) Draw a diagram depicting Human Alimentary Canal and label on it: Gall bladder, Liver and Pancreas.
    (ii) State the roles of Liver and Pancreas.
    (iii) Name the organ which performs the following functions in humans:
    (a) Absorption of digested food
    (b) Absorption of water.

22. (i) The upward movement of water normally requires a pump in our houses, but in tall trees water rises up without any external support. Explain the mechanism.
    (ii) State three points of difference between the transport of materials in xylem and phloem tissues.

23. Mention the location of four major glands associated with digestive system of humans and explain function of each.

24. (i) Explain the process of digestion of proteins in the stomach and small intestine.
    (ii) How is small intestine designed to absorb digested food.

25. What is lymph? How is composition of lymph different from blood plasma? What is the direction of its flow?
    List two functions of lymphatic system.

26. (i) List two differences between 'holozoic nutrition' and 'saprophytic nutrition. Give two examples each of these two types of nutrition.
    (ii) State the roles of liver and pancreas.
    (iii) Name the organ which performs the following functions in humans:

    1. Absorption of digested food
    2. Absorption of water.

(iv) Explain the statement, "Bile does not contain any enzyme but it is essential for digestion."

27. (i) Draw a schematic representation of transport and exchange of 0_2 and $C0_2$ in human body.
    (ii) Draw a schematic representation of movement of water in plants during transpiration and explain it.
    (iii) Explain transport of food and other substances in plants.
    (iv) Diffusion will not be sufficient to provide raw materials in leaves and energy in roots of plants. Therefore, a proper system of transportation is essential. Explain.

28. (i) How many times the blood goes through the heart during one cycle in fish and why?
(ii) List the respiratory pigment present in our body. Where is it present?
(iii) Why are valves present in heart and veins?

29. (i) Draw a diagram of human respiratory system and label

1. Part where air is filtered by fine hair and mucus
2. Part which terminates in balloon-like structures
3. Balloon-like structures where exchange of gases takes place
4. Part which separates chest cavity from abdominal cavity.

(ii) Draw a diagram of human excretory system and label the following

1. Part in which urine is produced
2. Part which stores the excretory products for expulsion from body.

30. (i) What is the mode of nutrition in

1. Fungi
2. Amarbel (*Cuscuta*)

(ii) Name the part of alimentary canal where:

1. Food is completely digested
2. Secrete juice that has trypsin
3. Secrete bile
4. Absorbs water from unabsorbed food

(iii) Mention the names of any two secretions by the gastric glands and state one role played by each in our body.