



DELHI PUBLIC SCHOOL NEWTOWN
SESSION 2022-2023
HALF YEARLY EXAMINATION

CLASS: IX
SUBJECT: BIOLOGY [SET A]

FULL MARKS: 80
TIME: 2 HOURS

*Answers to this paper must be written on the paper provided separately.
You will not be allowed to write during the first 15 minutes.
This time is to be spent in reading the question paper.
The time given at the head of this paper is the time allowed for writing the answers.*

*Section A is compulsory. Attempt any four questions from Section B.
The intended marks for questions or parts of questions are given in brackets [].
This question paper consists of 6 printed pages.*

SECTION A (40 Marks)
(Attempt all questions from this section)

Question 1

Select the correct answers to the questions from the given options. (Do not copy the question. Write the correct answer only): [15]

- i. Waste given out from our homes:
a. Industrial waste, b. Agricultural waste, c. Municipal waste,
d. Domestic waste.
- ii. Red Cross Day is celebrated on:
a. May 8, b. June 23, c. September 17, d. November 21.
- iii. Resistance to the onset of a disease after infection by harmful germs:
a. Toxin, b. Immunity, c. Vaccination, d. Antigen.
- iv. The type of joint found at shoulder is also found at:
a. Elbow, b. Knee, c. Ankle, d. Hip.
- v. Fat soluble vitamins are:
a. A, B and C, b. B, C and D, c. A, D and E, d. B, D and E.
- vi. Deficiency of _____ vitamin causes haemoglobin to be low in total volume:
a. Folic acid, b. Pantothenic acid, c. Pyridoxine, d. Thiamine.

- vii. The part of the flower that changes into seed in a mature fruit:
a. Ovary, b. Ovule, c. Placenta, d. Pollen grains.
- viii. Muscles found in the walls of the heart:
a. Smooth muscle, b. Striated muscle, c. Cardiac muscle, d. Unstriated muscle.
- ix. The type of tissue present in some parts of kidney tubule is:
a. Columnar Epithelium, b. Cuboidal Epithelium, c. Squamous Epithelium, d. Glandular Epithelium.
- x. Pigment which is present in the cell sap of a plant cell:
a. Chlorophyll, b. Xanthophyll, c. Carotene, d. Anthocyanin.
- xi. The part of the tooth exposed above the gum:
a. Root, b. Neck, c. Crown, d. Pulp
- xii. Total lung capacity:
a. 4500 ml, b. 1500 ml, c. 6000ml, d. 1000ml
- xiii. Respiration is a _____ process:
a. Catabolic process, b. Anabolic process, c. Synthesis process, d. None of the options.
- xiv. Lumbar region of the vertebral column has:
a. 5 vertebrae, b. 12 vertebrae, c. 4 vertebrae, d. 7 vertebrae
- xv. A bone from which calcium is removed:
a. Decalcified bone, b. Oxidised bone, c. Calcified bone, d. Uncalcified bone

Question 2

- (i) Name the following: [5]
 - a. The tissue which connects bone to bone.
 - b. A condition in which sepals are fused.
 - c. The swollen region of the ovary to which ovules are attached.
 - d. Parenchyma cells containing chloroplast.
 - e. The scientist who proposed the term “Cell”.
- (ii) State one difference between the following pairs as indicated: [5]
 - a. Deciduous and Permanent teeth in humans (Number of each set)
 - b. Glycolysis and Krebs Cycle (Site of occurrence)
 - c. Prokaryotic and Eukaryotic cell (Type of nucleus)
 - d. Areolar and Adipose Tissue (Function)
 - e. Acetabulum and Glenoid cavity (Location)

- (iii) Give technical terms for the following: [5]
- The category of plant tissues that have lost their ability to multiply.
 - The 11th and 12th pairs of ribs.
 - The thigh bone.
 - The two membranes which cover our lung.
 - The voice box.
- (iv) Choose the appropriate organelle from the box given below and form a suitable match along with the statements provided: [5]

Plasma membrane, Cell wall, Mitochondria, Endoplasmic Reticulum, Cytoplasm, Plastids, Centrosome, Lysosome, Ribosome, Golgi apparatus, Nucleus, Vacuoles

Sl. No.	Column A	Column B
a.	Supportive framework of the cell	
b.	Protein synthesis	
c.	Initiates and regulates cell division	
d.	Allows free movement of molecules in and out of the cell	
e.	Stores starch	

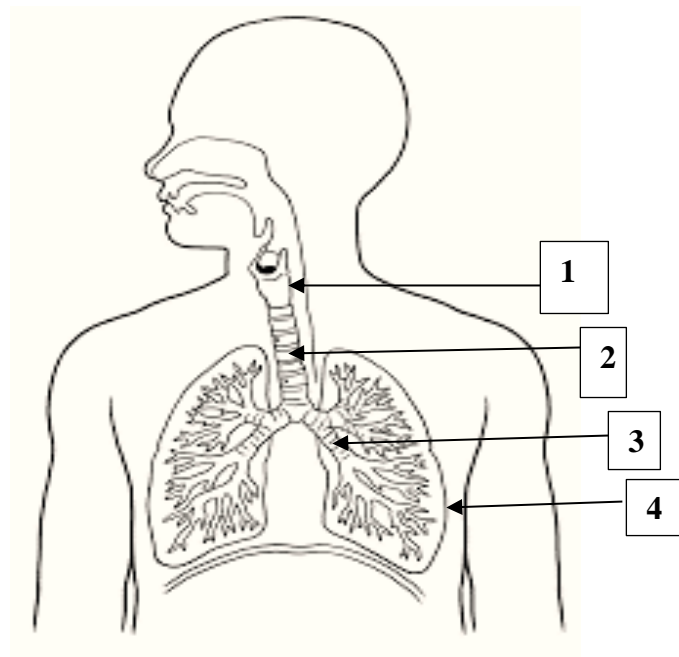
- (v) From the following symptoms given below, identify the type of disease and the deficient nutrient causing the same: [5]
- Belly protruding out.
 - Bone lack calcium and turn soft.
 - Dryness of the cornea.
 - Spongy and bleeding gums.
 - Delay in the clotting time.

SECTION B (40 Marks)
(Attempt any four questions from this section)

Question 3

- Define respiration. [1]
- Mention the changes observed in the Diaphragm and Ribcage during Inspiration. [2]
- Mention the name of the first and second vertebrae present in our body. [2]
- Mention two important functions of lymph. [2]

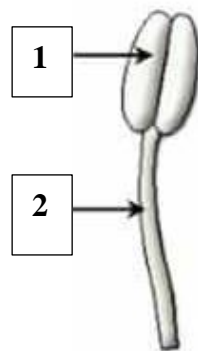
- (v) Observe the diagram given below and answer the following questions: [3]



- Label the parts numbered 1 to 4.
- Mention the site for the exchange of gases in the lungs.

Question 4

- Mention the main function of Red Cross Society. [1]
- Answer the following questions by observing the diagram given below: [2]



- Label the parts 1 and 2.
- Define the term Monoecious flower. Give one example. [2]
 - Mention two characteristic features of Striated Muscle. [2]
 - Mention the three main purposes of incineration. [3]

Question 5

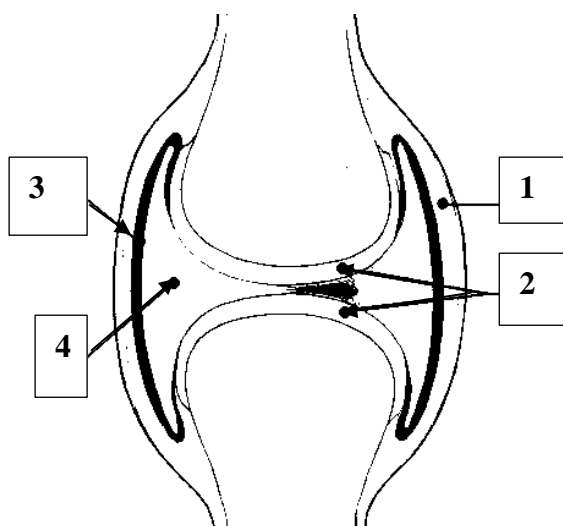
- Mention the main function of Scrubbers. [1]
- Mention one important function of- [2]
 - Ribosome
 - Golgi bodies

- (iii) Name any one body part where ciliated epithelium is found in human. What is the function of ciliated epithelium tissue? [2]
- (iv) Mention two important locations in our body where we find cartilage. [2]
- (v) Given below is a table showing the names of enzyme, substrate acted upon and product formed. Complete the table by filling the blanks (1-3): [3]

Region	Secretion	Enzymes	Substrate	Product
Mouth	1. _____	2. _____	Starch	3. _____

Question 6

- (i) Name the last part of the backbone. [1]
- (ii) Mention the name of the pad of cartilage which forms a kind of cushion between two vertebrae. Name the large hole present at the back of the skull. [2]
- (iii) Mention the name and function of the lymph vessel present in the villus. [2]
- (iv) Mention any two adaptations of ileum for absorption of digested food. [2]
- (v) Observe the diagram given below and answer the following questions: [3]



- a. Label the parts 2 and 4 in the above diagram.
- b. Name the type of joint shown in the above diagram.

Question 7

- (i) Define cell. [1]
- (ii) Name two enzymes which help in the digestion of emulsified fat. [2]
- (iii) What do you understand by the term “Polyadelphous”? Name a flower which possesses such Androecium. [2]
- (iv) Mention two structural features of bone. [2]
- (v) Identify the health organisation associated with the following activities: [3]
- To lay pharmaceutical standards for important drugs.
 - To educate people in accident prevention.
 - To procure and supply blood to the needy victims of war or other calamities.

Question 8

- (i) Define Waste. [1]**
- (ii) What do you understand by the term 'Incineration' and mention the impact of Incineration to our environment. [2]**
- (iii) Mention the names of the vaccines given for Typhoid and Poliomyelitis. [2]**
- (iv) Explain the following terms- [2]**
 - a. Tidal Volume**
 - b. Alveolar air**
- (v) Draw a neat labelled diagram of a long bone. [3]**