



DELHI PUBLIC SCHOOL NEWTOWN
SESSION 2024-25
FINAL 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 eight printed pages.*

SECTION A

(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) Assertion (A)- Hypothalamus is the chief heat regulating centre of the brain.
Reason (R)- Human beings are endothermal organisms.
(a) Both A and R are false (b) A is true and R is false
(c) A is false and R is true (d) Both A and R are true
- (ii) Cell membrane of a cell is made up of:
(a) Cellulose (b) Lipoprotein
(c) Pectin (d) Calcium
- (iii) Prisha went to the market and she saw a person selling carrots, yellow fruits and green leafy vegetables. She thought of buying them as these vegetables protect us from a particular deficiency disease caused due to lack of vitamin A in our body. Identify the disease from the following options.
(a) Haemorrhage (b) Beri Beri
(c) Pellagra (d) Night Blindness
- (iv) Rahul saw his mother burning leaf litters in the garden. He warned his mother to move aside as a harmful gas was being liberated and it combines with haemoglobin in our blood. Identify the unstable compound formed when carbon dioxide combines with haemoglobin in our blood.
P. Carbamino-haemoglobin Q. Oxyhaemoglobin
R. Carboxy-haemoglobin S. Carbo-haemoglobin
(a) Only P (b) Only R
(c) Only Q (d) Only S

(v) The entrance of the trachea is guarded with a flap called:

- (a) Tongue (b) Epiglottis
(c) Oesophagus (d) Larynx

(vi) Fat soluble vitamins are:

- (a) A, B, E and K (b) B, E, D and C
(c) A, D, E and K (d) B, C, D and K

(vii) Kishan and his friends were studying about warm blooded animals. They observed pictures of few animals and were discussing which of them belong to this category. Identify who said the correct one among them?

1. Rohit- Lizard and Salamander 2. Rashi- Salamander and Frog
3. Kishan- Crow and Monkey 4. Piu- Snake and Carp

- (a) Rohit is correct (b) Rashi is correct
(c) Kishan is correct (d) Piu is correct

(viii) Hiya was studying about different kinds of tissues in a human body. Help her to identify the type of tissue present in the lining of mouth and nasal cavity:

- (a) Columnar Epithelium (b) Cuboidal Epithelium
(c) Squamous Epithelium (d) Cardiac muscle

(ix) Riddhi tried to understand the vaccine used to prevent particular diseases. She tabulated them as follows:

Vaccine	Disease
P	Typhoid
Q	Tuberculosis

- (a) P- TAB and Q- Salk's vaccine (b) P- TAB and Q- BCG
(c) P- BCG and Q- TAB (d) P- Salk's vaccine and Q- TAB

(x) Assertion (A) - Chlorophyll is present in the chromoplast of flowers.
Reason (R) - It gives yellow colour to the flower.

- (a) Both A and R are false (b) A is true and R is false
(c) A is false and R is true (d) Both A and R are true

(xi) Shouhardya, was suffering from malaria. His doctor told him this disease is caused due to a parasite which is a protozoa. Help him identify the parasite from the options given below:

- P. *Plasmodium* Q. *Nitrosomonas*
R. *Vibrio cholerae* S. *Entamoeba sp.*

- (a) Only Q (b) Only R
(c) Only S (d) Only P

(xii) Aditi was studying about the different kinds of glands and came to know that gland (P) present in the margins of eyelids is a modification of gland (Q). Help Aditi to identify (P) and (Q):

1. P is Mammary gland and Q is Sweat gland

2. P is Meibomian gland and Q is Sebaceous gland
3. P is Ceruminous gland and Q is Sebaceous gland
4. P is Lacrimal gland and Q is Sweat gland

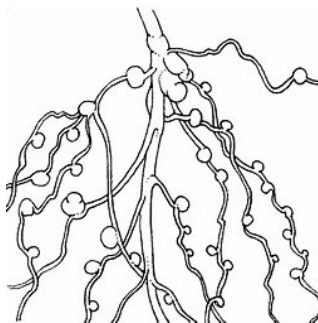
- (a) Only 1 (b) Only 2
(c) Only 3 (d) Only 4

(xiii) Aerobic respiration produces the following substances. Which of the following is/are the products formed in the above process?

1. Lactic acid, 2 ATP, Water vapour
2. Ethanol and carbon dioxide, 2ATP
3. Lactic acid and Ethanol, 2ATP
4. Carbon dioxide, water vapour, 38 ATP

- (a) Both 1 and 2 (b) Only 2
(c) Only 4 (d) Both 2 and 4

(xiv) The picture given below shows root nodules of leguminous plants. In these root nodules, a type of microorganism is found which helps in nitrogen fixation in plants. Identify the organism present in the root nodules and the Kingdom to which it belongs:



- (a) *Aspergillus* and Fungi (b) *Rhizobium* and Monera
(c) *Saccharomyces* and Fungi (d) *Clostridium* and Monera

(xv) Assertion (A)- Discarded appliances, mobiles, electrical equipment are waste.

Reason (R)- The above discarded electrical appliances are known as e-waste.

- (a) Both A and R are false (b) A is true and R is false
(c) A is false and R is true (d) Both A and R are true

Question 2

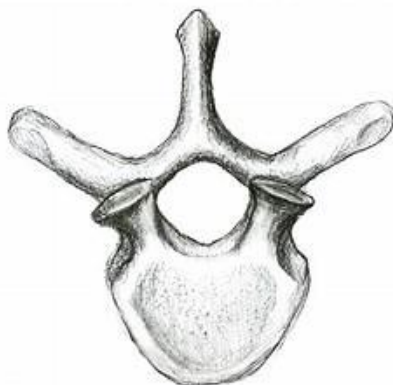
(i) Name the following:

[5]

- (a) Enzyme which converts trypsinogen to trypsin.
- (b) A condition in which filaments of the stamens are fused in one group.
- (c) The arrangement of ovules in the ovary.
- (d) Scientist who discovered Penicillin.
- (e) Yellowish green fluid produced in liver.

- (ii) Given below is the diagram of a typical thoracic vertebra. Read the information given below the diagram and fill in the blanks:

[5]



The ___(a)___ is composed of 33 individual ring like bones called vertebra. Lower part of the thoracic vertebra is known as ___(b)__. The ___(c)___ skeleton includes the bones of the limbs and the girdles. ___(d)___ is a flat longitudinal ridge projecting upward from the meeting point of the two neural arches. A pad of cartilage known as ___(e)___ forms a kind of cushion between two vertebrae.

- (iii) Arrange and rewrite the terms in each group in the correct order so as to be in a logical sequence beginning with the term that is underlined.

[5]

- (a) Stigma, Ovary, Ovule, Style.
- (b) Alveoli, Bronchiole, Bronchi, Trachea.
- (c) Molar, Canine, Incisor, Premolar.
- (d) Salting, Ripening, Curdling of milk, Curd is processed.
- (e) Animalia, Trout, Chordata, Pisces.

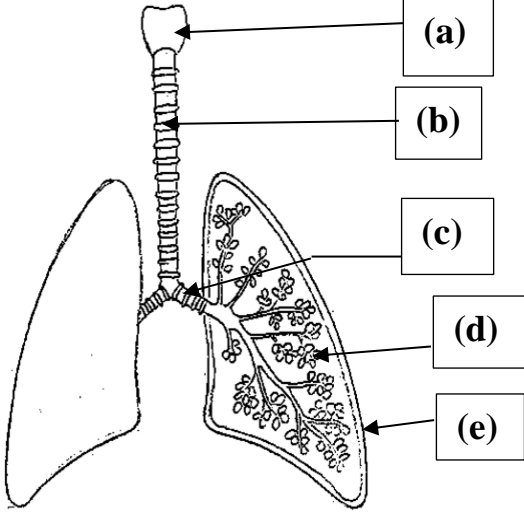
- (iv) Read the explanation given below and name the structure:

[5]

- (a) Steapsin is secreted from the organ.
- (b) Organelle which helps in producing acrosome in sperms.
- (c) Small opening created by the integument for the entry of pollen tube.
- (d) Protective covering of the lung.
- (e) Single thin papery cotyledon of maize grain.

- (v) Given below is the diagram of human respiratory system. Match the structures marked (a) to (e) with their correct structures/ functions:

[5]

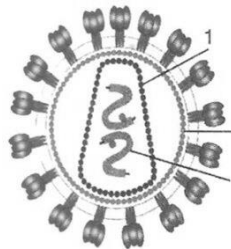
Human Respiratory System	Structures/ Functions
	<ol style="list-style-type: none"> 1. Exchange of gases takes place here. 2. Vocal cords present here helps to produce sound or voice. 3. Thin tubes present inside the lungs which carry gases. 4. Carry gases and has C shaped rings of cartilage. 5. They are tubes which are formed from '(b)' and enter into each lung with the inspired air. 6. A pair of spongy, elastic organ formed by the air sacs.

SECTION B (40 Marks)

(Attempt any four questions from this section)

Question 3

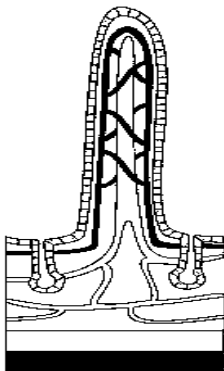
- Mention the full form of AIDS. [1]
- Differentiate between pimple and acne on the basis of definition. [2]
- Rohit while crossing Belghoria Express Way, saw burning of waste taking place at high temperature. He understood that the method of incineration was being conducted. Mention any two main purposes of incineration. [2]
- Zoya went to the zoo and she observed many reptiles there. She was writing down their features in her note book so as to identify them properly in future. Mention two important characteristic features of Reptilia. [2]
- Observe the diagram given below and answer the following questions. [3]



- Identify the organism.
- Why is this organism known as the connecting link between living and non living beings?

Question 4

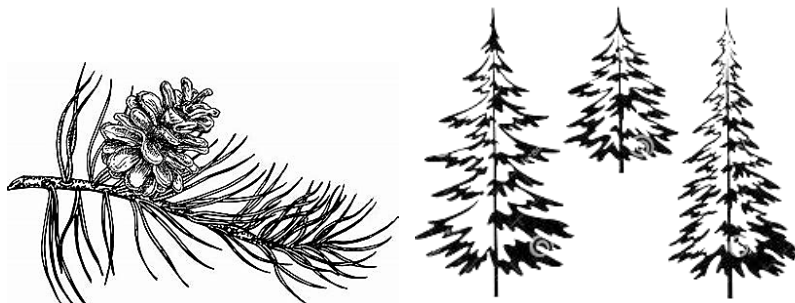
- (i) Define Toxoids. [1]
- (ii) Mention any two symptoms of Hepatitis. [2]
- (iii) Mention the function of the structure shown below and write the name of the lymph vessel found here in the structure. [2]



- (iv) Rohit was sitting in one place for a long time and he was playing video games. After sometime, when he stood up, he was not being able to walk as there were cramps in his leg. Mention the reason for which he got cramps and also identify the physiological process which caused the cramps. [2]
- (v) Draw a well labelled diagram of neuron. [3]

Question 5

- (i) Mention the full form of WHO. [1]
- (ii) Mention two characteristic features of the below given plant. [2]

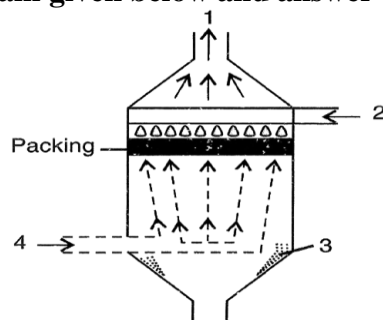


- (iii) Seema is fond of having mushrooms and one day she went to the market and saw some paddy straw mushrooms in the market. She was excited to see them, and bought a few of them while she was returning back home. Mention the scientific name of paddy straw mushroom and identify the kingdom to which it belongs. [2]
- (iv) Why is smooth muscle also known as unstriated muscle? Mention one location in human body where we can find this muscle. [2]
- (v) Draw a neat labelled diagram of a phloem tissue. [3]

Question 6

- (i) Name the enzyme which helps in the digestion of lactose. [1]
- (ii) Arham while returning back home from his school, saw that a person had met with an accident. He called up an organisation to help the person and to take him to the hospital for recovery. Identify the organisation whom Arham had called and

- mention one main function of this organisation. [2]
- (iii) Mention the scientific name of the pathogen which causes Typhoid. [2]
Mention one preventive measure for this disease. [2]
- (iv) Jishnu was suffering of Covid, so the doctor had asked him to stay isolated from his family as it is a highly infectious disease. Mention the full form of the virus which causes this disease and state its quarantine period. [2]
- (v) Observe the diagram given below and answer the following questions. [3]



- (a) Identify the device.
- (b) Mention the functions of this device.

Question 7

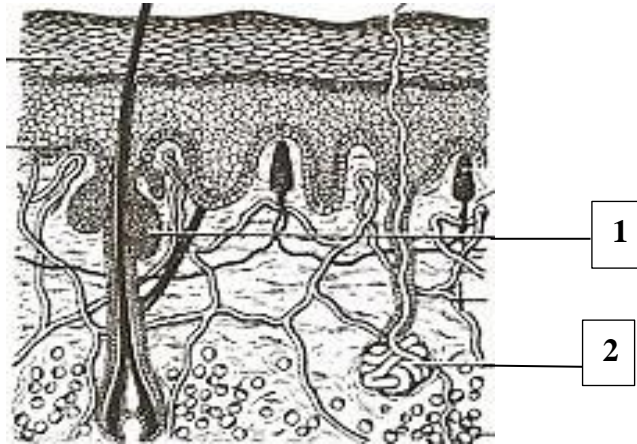
- (i) Mention the name of the organelle which initiates cell division. [1]
- (ii) Amit was suffering from a lot of pain in his limbs and he was also feeling fatigue. Doctor had asked him to go for a blood test and from the reports it was found that he was suffering from Vitamin D deficiency. Mention the name of the deficiency disease caused due to the lack of Vitamin D and name any two sources of food from which we derive Vitamin D. [2]
- (iii) Mention the name of the diseases which has the following symptoms: [2]
(a) Dryness of cornea and ulceration.
(b) Spongy and bleeding gums, loosening of tooth.
- (iv) Give reasons: [2]
(a) Pea flowers have diadelphous stamen.
(b) Mitochondria is known as the power house of the cell.
- (v) Identify the organisations which are involved in the following activities: [3]
(a) To procure and supply blood to the victims of war.
(b) To supply information about latest development of vaccine against a disease.
(c) To collect and supply information about the occurrence of disease.

Question 8

- (i) Name the cavity into which the head of the humerus fits in the pectoral girdle. [1]
- (ii) Differentiate between Arthropoda and Echinodermata on the basis of their locomotory organ. [2]
- (iii) Yeast is a unicellular organism which is used in brewing industries and bakery shops. Mention the scientific name of Yeast and how does it help in brewing industry? [2]
- (iv) Ram is a young boy who has small and large patches without melanin on his skin.

One day, he saw a man, Mr. Pal, with a condition where no pigment was present on his skin i.e. he was completely pigment less. He understood that the problem of both of them is related to loss of pigment but the conditions are different. Identify the problem of Ram and Mr. Pal. [2]

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



(a) Name the tissue which stores fat.

(b) Identify “1” and “2”.