



BOYS' HIGH SCHOOL AND COLLEGE
HALF YEARLY EXAMINATION (2024-25)

CLASS – IX

BIOLOGY (SCIENCE PAPER -3)

Time: 2 Hours

MM:80

*Section A is compulsory. Attempt any four questions from Section B.
The intended marks for questions or parts of questions are given in brackets.*

SECTION A (40 Marks)

(Attempt all questions from this section)

Question 1

Select the correct answers to the questions from the given options.

[15]

(Do not copy the questions, write the correct answers only):

- (i) **The part of the tooth that is not covered by the gum is called:**
(a) Cement (c) Pulp
(b) Crown (d) Neck
- (ii) **Modified sebaceous glands found in the auditory canal are:**
(a) Meibomian (c) Ceruminous
(b) Mammary (d) Sweat
- (iii) **Which one of the following is a vitamin deficiency disease?**
(a) Diabetes (c) Goitre
(b) Marasmus (d) Scurvy
- (iv) **Anaerobic respiration in animals produces:**
(a) Ethyl alcohol + carbon dioxide (c) Ethyl alcohol
(b) Lactic acid and carbon dioxide (d) Lactic acid
- (v) **Which of the following division of plants show undifferentiated body?**
(a) Thallophyta (c) Bryophyta
(b) Pteridophyta (d) Gymnosperms
- (vi) **Tendons and ligaments are examples of:**
(a) Cartilage (c) Fibrous connective tissue
(b) Adipose tissue (d) Muscular tissue
- (vii) **The water from the digested food is mainly absorbed by:**
(a) Stomach (c) Duodenum
(b) Colon (d) Rectum
- (viii) **The essential whorls of a flower are:**
(a) Calyx and corolla (c) Calyx and epicalyx
(b) Stamens and carpels (d) Corolla and stamens
- (ix) **Well defined nucleus is absent in:**
(a) Plant cell (c) Eukaryotic cell
(b) Animal cell (d) Prokaryotic cell
- (x) **The residual volume of air in the lungs is:**
(a) 500 ml (c) 3000 ml
(b) 1500 ml (d) 3500 ml
- (xi) **The salivary glands located below the tongue are known as:**
(a) Sublingual (c) Sebaceous
(b) Submandibular (d) Parotid
- (xii) **Which bacteria fixes nitrogen in the soil?**
(a) Nitrobacter (c) Rhizobium
(b) Nitrosomonas (d) Clostridium
- (xiii) **Protein is converted into amino acid by an enzyme called:**
(a) Sucrase (c) Trypsin
(b) Lipase (d) Maltase
- (xiv) **Hollow bones are present in:**
(a) Reptiles (c) Mammals
(b) Aves (d) Pisces
- (xv) **Choose the correct sequence of respiratory organs in humans:**
(a) Pharynx --> Larynx --> Bronchi --> Trachea --> Alveolus
(b) Pharynx --> Larynx --> Trachea --> Bronchi --> Alveolus
(c) Pharynx --> Trachea --> Larynx --> Bronchi --> Alveolus
(d) Pharynx --> Trachea --> Bronchi --> Larynx --> Alveolus



Question 2

- (i) Give appropriate biological/technical terms for the following: [5]
 (a) The layer of endosperm of maize, rich in proteins.
 (b) A preparation consisting of weakened or dead germs.
 (c) A flower containing both male and female parts.
 (d) The deficiency of oxygen reaching the tissues.
 (e) Teeth that are formed twice in the lifetime of the organism.
- (ii) Choose the odd one out from the following terms and name the category to which the other belongs: [5]
 (a) Vitamin C, Vitamin D, Vitamin A, Vitamin E
 (b) Bronchioles, Bronchus, Alveolus, Diaphragm
 (c) Stomach, Oesophagus, Trachea, Colon
 (d) Unio, Snail, Starfish, Sepia
 (e) Parenchyma, Collenchyma, Cartilage, Sclerenchyma
- (iii) State whether the following statements are true or false. Also rewrite the false statements correctly. [5]
 (a) Amphibians of the plant kingdom are the mosses.
 (b) Acetabulum is present in the pectoral girdle.
 (c) Iron is required for the proper functioning of thyroid.
 (d) Protoplasm is the part of the cell which surrounds the nucleus.
 (e) End product of glycolysis is lactic acid.
- (iv) Fill in the blanks with suitable words: [5]
 (a) Unicellular and eukaryotic organisms belong to the kingdom _____.
 (b) _____ is an opening from stomach into intestine.
 (c) Arrangement of flowers on the stem is called _____.
 (d) _____ is a plastid which stores starch.
 (e) _____ joint is present between atlas and axis vertebrae.

- (v) Match the following column: [5]

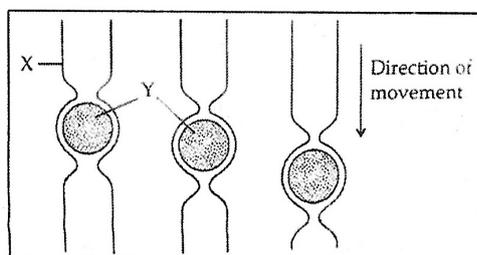
| Column A | | Column B | |
|----------|--------------|----------|------------|
| i. | Flatworm | a. | Ostia |
| ii. | Bacteria | b. | Nephridia |
| iii. | Sycon | c. | Flame cell |
| iv. | Sea cucumber | d. | Prokaryote |
| v. | Earthworm | e. | Tube feet |

SECTION – B (40 Marks)

(Attempt any four questions from this section)

Question 3

- (i) Write the general formula of monosaccharide and disaccharide. [1]
 (ii) How is aerobic and anaerobic respiration different in plants? [2]
 (iii) What are the differences between class Amphibia and class Reptilia? [2]
 (iv) Explain the following terms: [2]
 a) Tidal volume (b) Asphyxiation
- (v) Given below is a diagram depicting a physiological process in mammals. Study the same and answer the questions: [3]
 (a) Name and define the process occurring in the diagram.
 (b) Label the parts 'X' and 'Y'.
 (c) Define the part 'Y'.

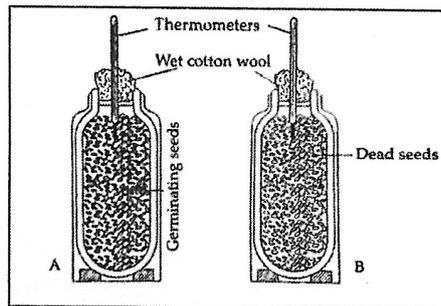


Question 4

- (i) Define Compensation point. [1]
- (ii) Mention two functions of the World Health Organization. [2]
- (iii) Draw a neat labelled diagram of an earthworm. [2]
- (iv) Complete the missing parts of the following table: [2]

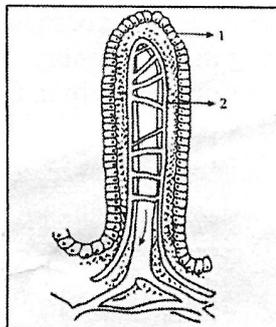
| Enzymes | Nutrient | Product of digestion |
|--------------|----------|----------------------|
| i. _____ | Starch | Maltose |
| ii. Steapsin | Fats | _____ |

- (v) Study the experimental set-up given below answer the questions: [3]
 - a) What is the aim of the experiment shown below.
 - b) What is the observation after a few hours for flask A and B and why?
 - c) Name the chemical used to prevent bacterial growth. Explain how would bacteria interfere with the experiment.



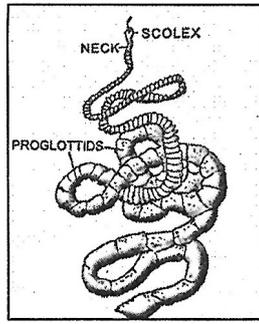
Question 5

- (i) Expand the term UNICEF. [1]
- (ii) How do gastric juice and bile juice help in digestion of food? [2]
- (iii) Differentiate between cold blooded and warm blooded animals with an example of each. [2]
- (iv) Fill in the blanks: [2]
 - (a) _____ forms the building material of the body. Potato is a good source of (b) _____.
 - Deficiency of proteins causes (c) _____. Night blindness occurs due to deficiency of (d) _____.
- (v) Study the diagram given below and answer the questions: [3]
 - a) Name the structure shown and write its location in the body.
 - b) Label the parts 1 and 2.
 - c) How is this structure well adapted for digestion of food?



Question 6

- (i) Write a balanced equation to represent aerobic- respiration in animals. [1]
- (ii) State any two activities of the Red Cross society. [2]
- (iii) Write the location and function of the following glands: [2]
 - a) Meibomian glands b) Salivary glands
- (iv) Explain the following terms: [2]
 - a) Incomplete flower b) Viviparous germination
- (v) Study the given diagram and answer the following questions: [3]



- Name the organism and the phylum it belongs to?
- State any two characteristic features of this organism.
- How is this organism different from the earthworm?

Question 7

- Write the chemical name of: [1]
 - Vitamin C
 - Vitamin D
- Differentiate between the following terms: [2]
 - Kreb's cycle and Glycolysis.
 - Cryptogams and Phanerogams.
- 'Roughage is an important part of our diet'. Explain with examples. [2]
- Write any two distinguishing features of the following Phylum: [2]
 - Porifera
 - Mollusca
- Draw a well labelled diagram of the human tooth. [3]

Question 8

- Write the dental formula of an adult human being. [1]
- Given below are a set of five terms. Rewrite them in a logical sequence beginning with the word that is underlined. [2]
 - Caecum, Rectum, Colon, Jejunum, Ileum
 - Larynx, Alveolus, Bronchus, Trachea, Pharynx
- Write the location and function of the following: [2]
 - Epiglottis
 - Micropyle
- What is digestion? What are the end products of the digestion of starch and proteins? [2]
- Given below is a diagram depicting a physiological process in man. Study the same and answer the following questions: [3]
 - Define the process occurring in the diagram.
 - Label the parts 1 and 2. How do they help in this process.
 - Name and explain the role of part 3.

