



BOYS' HIGH SCHOOL AND COLLEGE

SECOND TERM EXAMINATION – 2023-24

CLASS - IX

BIOLOGY (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

(Attempt all questions from this section)

Question 1

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

(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) The digestive juice that does not contain any enzyme:
(a) Bile (c) Gastric juice
(b) Pancreatic juice (d) Saliva
- (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) The rotator movement of the head from side to side over the vertebra is due to:
(a) Pivot joint (c) Gliding joint
(b) Hinge joint (d) Ball and socket joint
- (vi) The end product of carbohydrate digestion is:
(a) Starch (c) Fat
(b) Glucose (d) Sucrose
- (vii) The process of pasteurization involves:
(a) Heating (c) Heating and cooling
(b) Cooling (d) Boiling
- (viii) The loss of pigments in patches from the skin is called:
(a) Albinism (c) Baldness
(b) Leucoderma (d) Chicken pox
- (ix) The residual volume of air in the lungs is:
(a) 500 ml (c) 3000 ml
(b) 1500 ml (d) 3500 ml
- (x) The salivary glands located below the tongue are known as:
(a) Parotid (c) Sebaceous
(b) Submandibular (d) Sublingual
- (xi) Which one of the following is not an antibiotic?
(a) Penicillin (c) Steapsin
(b) Streptomycin (d) Chloromycetin
- (xii) The microorganism that helps in making wine is:
(a) Azotobacter (c) Lactobacillus
(b) Aspergillus (d) Saccharomyces
- (xiii) Which is the last part of the backbone?
(a) Cervical (c) Sacrum
(b) Coccyx (d) Lumbar
- (xiv) The pigment 'melanin' in the skin is found in:
(a) Stratum mapighii (c) Granular layer
(b) Stratum corneum (d) Dermis
- (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 process of conversion of fats into tiny droplets by bile salts.
 (b) The sebaceous glands found in the ears.
 (c) A large hole at the back of the cranium for the passage of spinal cord.
 (d) Bones that form fingers of the hand.
 (e) A serious food poisoning disease caused due to bacterium in tinned food.

- (ii) Choose the odd one out from the following terms and name the category to which the other belongs: [5]
 (a) Vitamin C, Vitamin K, Vitamin A, Vitamin E
 (b) Stomach, oesophagus, trachea, colon
 (c) Ilium, Sacrum, Pubis, Ischium
 (d) Cholera, Tetanus, Anthrax, Diphtheria
 (e) Pharynx, Oral cavity, Larynx, Nasal cavity

- (iii) State whether the following statements are true or false. Also rewrite the false statements correctly. [5]
 (a) Ectothermic animals are cold blooded.
 (b) Axis is the first cervical vertebra.
 (c) The pyloric spincter guards the opening of oesophagus into the stomach.
 (d) Carbon dioxide is transported in the form of oxy-haemoglobin.
 (e) Volvariella is the most common edible mushroom worldwide.

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

Column A		Column B	
i.	Retinol	a.	Beriberi
ii.	Trypsin	b.	Starch
iii.	Calciferol	c.	Night blindness
iv.	Ptyalin	d.	Protein
v.	Thiamine	e.	Rickets

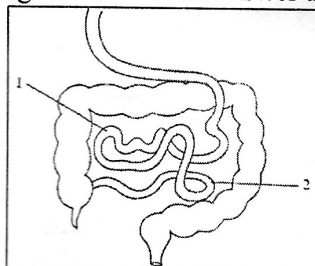
- (v) Given below is an example of a certain structure and its function. On a similar pattern fill in the blanks: [5]
 e.g. Ribosome ----- Protein synthesis
 (a) Glenoid cavity ----- _____
 (b) Pleura ----- _____
 (c) Sebaceous gland ----- _____
 (d) Epiglottis ----- _____
 (e) Molars ----- _____

Section B

(Attempt any four questions from this section)

Question 3

- (i) Write the general formula of monosaccharide and disaccharide. [1]
 (ii) List the ways in which the skin serves as a protective layer of the body. [2]
 (iii) Describe in detail what happens to the following structures during inhalation and exhalation. [2]
 (a) Ribs (b) Diaphragm
 (iv) Fill in the blanks with appropriate words. [2]
 The forelimb consists of a long bone _____ (1) in the upper arm, and two long bones _____ (2) and _____ (3) in the lower arm. The wrist has eight bones called the _____ (4).
 (v) Study the diagram given below and answer the questions that follow: [3]



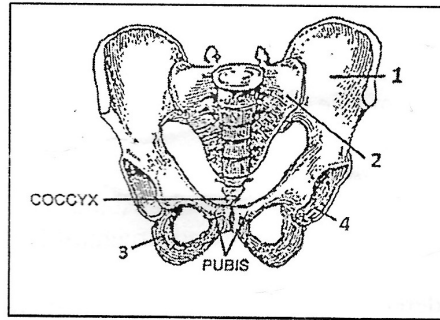
- (a) Name the organ shown and label the parts 1 and 2.
 (b) Name the two juices found in this organ.
 (c) How is the part 2 adapted for digestion?

Question 4

- (i) Define vital capacity. [1]
- (ii) How does vasodilation and vasoconstriction contribute in regulating the temperature of the body? [2]
- (iii) Bacteria can be both useful and harmful. Explain. [2]
- (iv) Complete the missing parts of the following table: [2]

Enzymes	Nutrient	Product of digestion
i. _____	Proteins and polypeptides	Smaller peptides and amino acids
ii. Lipase	Fats	

- (v) The diagram below shows the pelvis. Study the diagram and answer the questions that follow: [3]



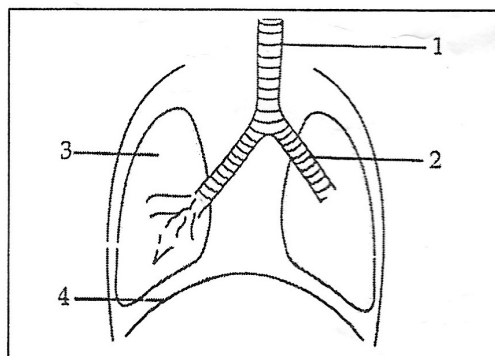
- (a) Name the parts labelled as 1, 2 and 3.
- (b) What is the role of the part labelled as '4'.
- (c) What is the function of hip or pelvic girdle.

Question 5

- (i) Write the expanded form of BCG. [1]
- (ii) What is the function of gastric juice in the stomach. [2]
- (iii) Fill in the blanks: [2]
 - The air breathed in and out during normal breathing is called _____ (1). Some tidal air is left in _____ (2) such as trachea and bronchi. _____ (3) is the air that can be drawn forcibly and _____ (4) is the air that can be forcibly expelled.
- (v) (iii) We sometimes experience goose flesh during winters. Why? [2]
- (v) (iv) Draw a well labelled diagram to show the internal structure of a human tooth. [3]

Question 6

- (i) Write the dental formula of an adult human being. [1]
- (ii) Distinguish between serum and vaccine. [2]
- (iii) Write the location and function of the following glands: [2]
 - a) Meibomian glands b) Salivary glands
- (iv) Explain the specific role of calcium and iron in the diet. Name a disease caused due to their deficiency? [2]
- (v) Study the given diagram and answer the following questions: [3]



- (a) Name the structure and label the parts 1 and 2.

- (b) State the function of the parts labelled 3 and 4.
- (c) Write the composition of expired air.

Question 7

- (i) Define asphyxiation. [1]
- (ii) Give a reason for the following: [2]
 - a) The first 7 pairs of ribs are called true ribs while 11th and 12th pair are called floating ribs.
 - b) The vertebral column is curved.
- (iii) Differentiate between any two types of freely movable joints. [2]
- (iv) What is assimilation? How is glucose assimilated in the body? [2]
- (v) Draw the diagram of a vertical section of the human skin and show the following structures/glands. [3]
 - a) Sweat glands b) Epidermis c) Sebaceous glands
 - d) Hair follicle e) Fat cells f) Erector muscles

Question 8

- (i) What is denitrification? [1]
- (ii) Given below are a set of five terms. Rewrite them in a logical sequence beginning with the word that is underlined. [2]
 - a) Caecum, Rectum, Colon, Jejunum, Ileum
 - b) Femur, Metatarsals, Phalanges, Tarsals, Fibula
- (iii) What is the significance of the following structures in the skeletal system: [2]
 - (a) Synovial fluid (b) Intervertebral disc or gristle.
- (iv) Roughage is considered an important part of the diet. Why? [2]
- (v) Given below is a diagram depicting a physiological process in man. Study the same and answer the following questions: [3]
 - a) Name and explain the process occurring in the diagram.
 - b) Label the gases X and Y.
 - c) Write a balanced chemical equation for the process shown.

