

GREENLAWNS SCHOOL, WORLI

FINAL EXAMINATION: 2023-24

BIOLOGY

Std: IX

Marks: 80

Date: 20/02/2024

Time: 2 hrs

You will **not** be allowed to write during the first **10** 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**.

SECTION A

(Attempt **all** questions from this section)

Question 1

Choose one correct answer to the questions from the given options:

[15]

(i) The function of Nucleolus:

- | | |
|--|---------------------------------------|
| (a) ATP production by releasing energy | (c) Synthesis of DNA |
| (b) Carries hereditary information | (d) Participates in protein synthesis |

(ii) Cartilage is not found in:

- | | |
|----------|---------------------|
| (a) Nose | (c) Kidney |
| (b) Ear | (d) Limbs of adults |

(iii) Placenta of a flower is a tissue that:

- | | |
|-------------------------|-----------------------------------|
| (a) Forms pollen grains | (c) Bears corolla |
| (b) Bears ovules | (d) Attaches stamens with corolla |

(iv) One of the example of harmful waste is:

- | | |
|------------|-------------|
| (a) Silver | (c) Cadmium |
| (b) Copper | (d) Gold |

(v) What is essential for the germination of all seeds?

- | | |
|---------------|--------------------|
| (a) Water | (c) Light |
| (b) Nutrients | (d) Photosynthesis |

(vi) The chemical used to prevent bacterial growth:

- | | |
|-----------------|--------------|
| (a) Formalin | (c) Alcohol |
| (b) Acetic acid | (d) Glycerin |

(vii) Animals with soft body, calcareous exoskeleton and ventral muscular foot belong to Phylum:

- | | |
|---------------------|--------------|
| (a) Nematoda | (c) Mollusca |
| (b) Platyhelminthes | (d) Annelida |

(viii) Which cannot fix atmospheric nitrogen in the soil?

- | | |
|-----------------|-----------------|
| (a) Rhizobium | (c) Azotobacter |
| (b) Clostridium | (d) Penicillium |

- (ix) Extra glucose in body gets converted into glycogen and is stored in:
 (a) Liver (c) Pancreas
 (b) Stomach (d) Bile
- (x) Joint that allows for rotation of the head:
 (a) Pivot joint (c) Gliding joint
 (b) Saddle joint (d) Synovial joint
- (xi) The function of hypothalamus:
 (a) Acts to sensitize hair on skin (c) Acts to control sebum
 (b) Acts for constriction of eyelids (d) Acts like a thermostat
- (xii) A sheet that separates abdominal cavity from thoracic cavity is:
 (a) Parenchyma (c) Sheet membrane
 (b) Diaphragm (d) None of these
- (xiii) The layer of endosperm of maize, rich in proteins:
 (a) Aleurone layer (c) Tegmen layer
 (b) Albumin layer (d) None of these
- (xiv) Which substance activates the enzyme pepsin in human body?
 (a) Bile (c) Lipase
 (b) Nuclease (d) Hydrochloric acid
- (xv) Which one of the following is not an Annelid:
 (a) Nereis (c) Leech
 (b) Earthworm (d) Tapeworm

Question 2

- (i) Name the following: [5]
 (a) Conversion of the absorbed digested food into body material.
 (b) The set-up in which the condition under study is missing.
 (c) The fluid which protects the lungs.
 (d) A rod-like structure present in the mid-dorsal axis of the body of all chordates.
 (e) The disposal of waste by burning.
- (ii) 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) Gymnosperms, algae, ferns, mosses, dicots
 (b) Lumbar, Cervical, Coccyx, Sacrum, Thoracic
 (c) Nuclear membrane, Cell wall, Cytoplasm, Nucleolus, Cell membrane
 (d) Nitrites, Ammonia, Nitrates, Ammonium compounds, Nitrogen
 (e) Cotyledon, Testa, Radicle, Tegmen, Hypocotyl

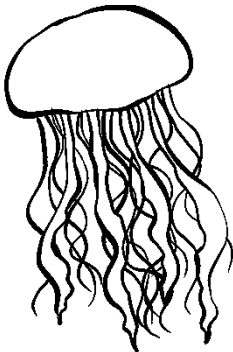
- (iii) Choose the odd one out from the following terms and name the category to which the others belong: [5]
- (a) Old computers, TVs, refrigerators, fly ash
 - (b) Style, Stigma, Ovary, Anther, Ovule
 - (c) Frog, lizard, toad, salamander
 - (d) Areolar, Squamous, Glandular, Columnar
 - (e) Caecum, Colon, Pancreas, Rectum
- (iv) State the exact location of the following structures: [5]
- (a) Parotid glands
 - (b) Atlas
 - (c) Epithelial tissue
 - (d) Premolars
 - (e) Ceruminous glands
- (v) Give functions of each of the following: [5]
- (a) Chromosomes
 - (b) Clitellum
 - (c) C-shaped rings of cartilage
 - (d) Micropyle
 - (e) Adipose tissue

SECTION B

(Attempt **any four** questions.)

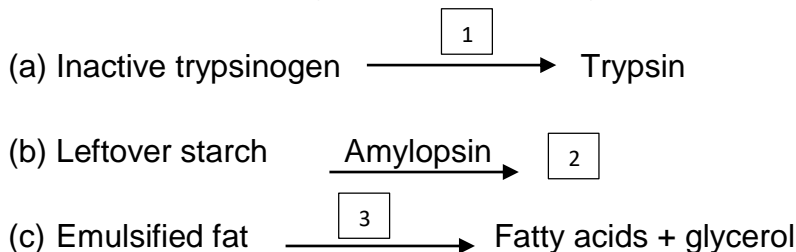
Question 3

- (i) Study the picture given below and answer the questions that follow: [3]



- (a) State the phylum to which this organism belongs.
- (b) Mention one significant characteristic of this phylum.
- (c) Give an example of another organism that belongs to this phylum.

- (ii) Complete the following equations by filling in the blanks 1, 2 and 3: [3]

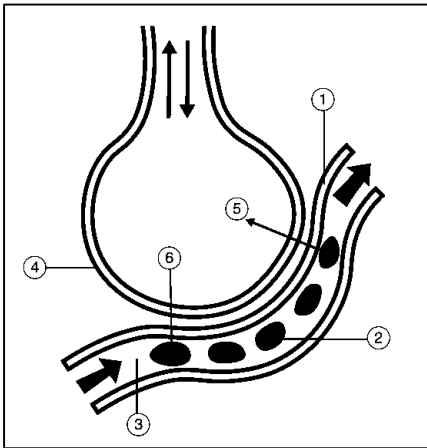


- (iii) What is Asphyxiation? What can be its cause? [2]
- (iv) Why do seeds sown very deep in soil fail to germinate? [2]

Question 4

- (i) Name the type of germination in bean seed and draw its labelled diagram. [3]

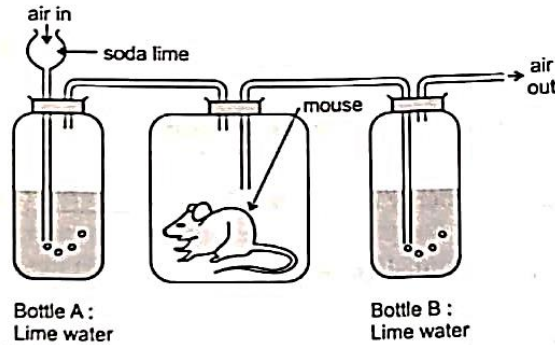
(ii) Given below is a diagrammatic sketch of a part in human beings:



- (a) Label parts 1 to 4. [2]
 (b) What do arrows 5 and 6 indicate? [2]
 (c) What is the role of ciliated epithelium lining of the respiratory tract? [2]
 (d) Name the compound formed between carbon dioxide and haemoglobin. [1]

Question 5

(i) Given below is an experimental set-up to demonstrate a particular process in animal. [5]
 Observe and answer the questions that follow:

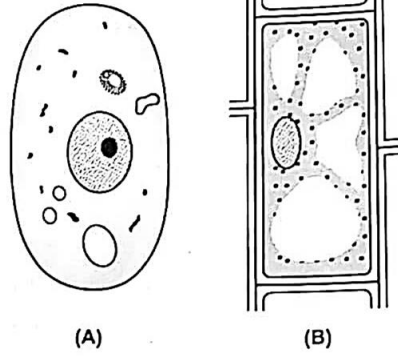


- (a) Define the physiological process being studied.
 (b) What is soda lime?
 (c) State the function of soda lime.
 (d) After a few hours, what will happen to the lime water in bottle A and in bottle B? Give suitable reasons for your answer.
 (e) Write a balanced chemical equation for the process carried out by the mouse.
- (ii) Differentiate between the following pairs on the basis of what is mentioned in brackets: [3]
 (a) Aerobic and anaerobic respiration in plants (end-products)
 (b) Saliva and Stomach (enzyme secreted)
 (c) Inspiration and expiration (volume of thoracic cavity)
- (iii) Give the regionwise classification of bones of the axial skeleton. [2]

Question 6

- (i) Explain any two methods carried out to preserve food. [2]
 (ii) Explain the following terms: [3]
 (a) Neuter flower
 (b) Peristalsis
 (c) Albinism

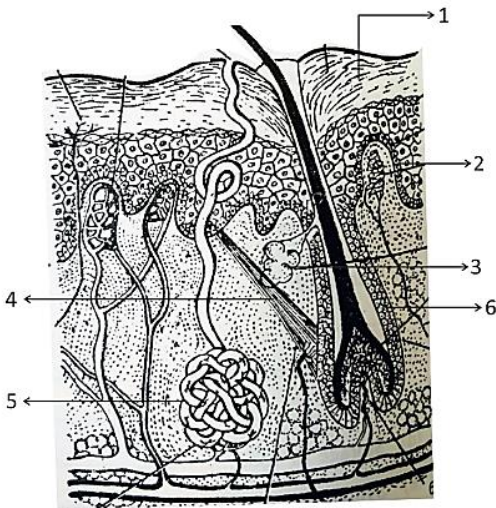
(iii) Given below are the sketches of two types of cells A and B:



- (a) Which one of these is a plant cell? Give reason in support of your answer. [2]
- (b) List 2 cell structures which are common to both the types. [1]
- (c) Name 2 structures found only in animal cells. [1]
- (d) What is a Prokaryotic cell? [1]

Question 7

(i) Study the diagram and answer the questions that follow: [5]

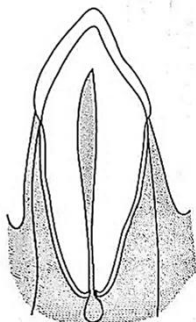


- (a) Label the parts 2, 4 and 5.
- (b) Give the function of parts 3 and 6.
- (c) Name the protein present in part 1.
- (d) Describe one problem related to part 3.

(ii) Give the scientific names of: [2]

- (a) Mango
- (b) Honeybee

(iii) The diagram below shows the internal structure of a tooth:



- (a) Redraw the diagram and label the parts – Enamel, Cement, Dentine, Pulp cavity. [2]
- (b) Write the dental formula of an adult human. [1]
