



Part A- Structured Essay

❖ Answer all the questions

(1) A)

- I. a) which characteristic feature of organisms is important for the efficient biological activities  
.....
- b) How above mentioned character makes it most efficient  
.....  
.....
- II. Mention the cause for the importance of high heat of vaporization of water to organisms  
.....  
.....
- III. Mention an example for following compound
- a. A disaccharide formed by condensation of different aldoses -.....
- b. Stored polysaccharide formed by hexose under ketose -.....
- c. Molecule that gives stability and rigidity to plasma membrane -.....
- d. A protein with intra and inter molecular bonds -.....
- e. A protein that neutralizes the foreign bodies -.....
- IV. Mention the structure of smallest RNA type  
.....
- V. Mention the resolution power and magnification of electron microscope
- resolution power -.....
- magnification -.....

B)

- I. a) Mention the features of prokaryotic flagellum which are differed from eukaryotic flagellum  
.....  
.....  
.....
- II. Mention the protein subunits of components of cytoskeleton  
.....  
.....  
.....
- III. What is meant by central vacuole  
.....  
.....  
.....

IV. Mention a pigment present in vacuole which gives colours to plant parts

.....

V. a. Mention the cell junction with membrane proteins surrounding pore

.....

b. Mention a location having above cell junction

.....

VI. How meiosis leading to evolution

.....

C)

I. Mention 2 differences of competitive and non competitive inhibitors during enzymatic activity

.....

.....

.....

II. Mention the co enzyme used for following process

• Acts as oxidative agent in photosynthesis-.....

• Acts as electron carrier in cellular respiration - .....

III. Mention the ATP synthesis methods during cellular respiration

.....

.....

IV. a. Mention the compounds that are produced during oxygenase reaction in wheat plant

.....

.....

b. Mention 2 disadvantages to plants due to above compounds

.....

.....

V. Fill the following table regarding to C4 pathway

| Enzyme           | Cell type where enzyme activate | Reaction |
|------------------|---------------------------------|----------|
| PEP carboxylase  |                                 |          |
| RuBP carboxylase |                                 |          |

(2) A.

I. Mention the nucleic acid type that acts as enzymes in protocell

.....

II. Mention 2 abilities of protocell, which can be observed in organisms

.....  
.....

III. Mention 2 criteria, used in natural classification system

.....  
.....

IV. Fill the given dichotomous key using following animals

(butter fly, house fly, squid, rag worm, fluke)

1. Legs present - .....

No legs - .....

2. Two pairs of wings - .....

One pair of wings - .....

3. Cephalization present - .....

No clear cephalization - .....

4. Radula present - .....

No radula - .....

V. Mention the major split in the history of life

.....

VI. Mention the domains with organisms resist to antibiotics like streptomycin

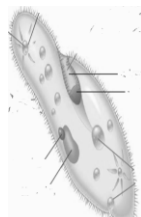
.....  
.....

B.

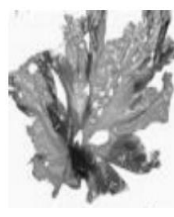
I. a) Put the relevant letter/s of the organism/s showing the following feature



A



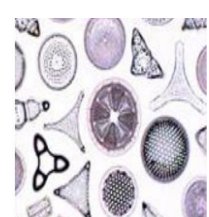
B



C



D



E

a) having contractile vacuoles - .....

b) laminarin stored food - .....

c) multicellular thallus with holdfast - .....

II. a) Which tissue of living plants resemble stem tissues of the early vascular plants

.....

b) Mention a method that obtain nutrients by lycophyte who lives under the soil

.....

III. What is the phylum that all members are homosporous, seedless vascular plants

.....

IV. Mention the phylum/phyla of fungi showing following characters

a. Coenocytic mycelium -.....

b. Form zygosporangium -.....

V. Mention 2 cell organelles, that can pass via pores of the septa in fungi

.....

C

I. Mention the phylum showing clear cephalization for first time

.....

II. What are the functions of following structures

a. Parapodia -.....

b. Setae -.....

c. Suckers -.....

III. Mention a functional adaptation of Aves for flying

.....

IV. Mention 2 adaptations of Reptilia for water conservation

.....

.....

V.

a. Mention a function of hairs of Mammalia

.....

b. What is the structure of mammals, which is important for ventilation process

.....

(3) A)

I. a. Mention the lateral meristems in plants

.....

.....

b. Mention their common function

.....

.....

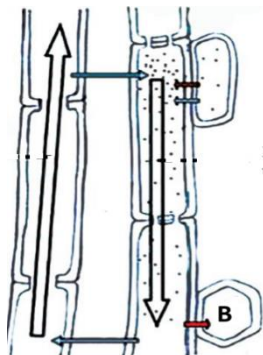
II. How the cell wall of collenchyma, differs from parenchyma

.....

III. What is meant by isotonic solution

.....  
 .....

IV. Answer the following question regarding to this diagram



a) Mention the part of the plant which acts as source

.....

b) What you can say about the sugar concentration of 'B'

.....

c) Which trigger for that

.....  
 .....

V. Mention the parts of living cell, that included into symplast

.....  
 .....

B)

I. Mention a plant showing guttation

.....

II. What are the deficiency symptoms of following minerals in plants

1. Ni -.....  
 .....

2. Cu -.....  
 .....

3. Zn -.....  
 .....

4. B -.....  
 .....

III. Mention 2 structural features of *Pogonatum* sporophyte

.....  
 .....

IV. Mention the relevant part of Anthophyta, to the given structure of *Cycas*

- a. Megasporophyll -.....
- b. Microsporophyll -.....
- c. Female gametophyte -.....

V. Mention 3 ways of seed production in parthenogenesis

.....

.....

.....

C)

I. a) Define thigmonasty

.....

.....

II. Mention the triple response of seedlings

.....

.....

.....

III. Mention 2 plant hormones that are important for the stem elongation

.....

.....

IV. Mention the role of ABA in draught response

.....

.....

.....

V. Answer the followings using induced defenses of plant for biotic stress

- a) Induced structural -.....
- .....
- b) Induced chemical -.....
- .....
- .....

4) A)

I. a. Mention the structural similarity of simple columnar and pseudostratified epithelia

.....

b. Mention 2 characters of the repeating unit of compact bone tissue of mammals

.....

.....

II. How digestion is important for the absorption in holozoic nutritional mode

.....

.....

.....

III. Mention 3 types of cells with their secretions in the gastric glands

.....

.....

.....

IV. What is the function of following enzyme

- 1. Pancreatic carboxypeptidase –
- .....
- 2. Pancreatic nucleases –
- .....

V. What is meant by essential amino acids

.....  
.....

VI. What is the cause to consider plant proteins as incomplete proteins

.....

B)

I. Which are trigger for the movements of lymph

.....  
.....

II. a. Mention the longest stage of cardiac cycle

.....

b. Mention the cause for the absence of atrial systole in ECG

.....

III. a. Mention the essential functional ability of a respiratory pigment

.....  
.....

b. Mention 2 respiratory pigments that only found among invertebrates

.....

IV. How carbaminohemoglobin is formed

.....

V. a) Mention the part of brain, that modulate the regulation of breathing

.....

a) Mention the main reason for lung cancers

.....

C)

I. Mention the more potent phagocytic cell type in man

.....

II. Mention effector cell type that activates the B lymphocytes to initiate antibody production

.....

III. Mention 2 ways that obtain active immunity

.....  
.....

IV. What are the consequences of acute allergic conditions

.....  
.....

V. a) Mention 2 less toxic nitrogenous excretory products

.....

b) Mention the importance of salt glands in marine birds

.....

VI. a) Mention the cause for the granulated appearance of human kidney


.....

b) Mention 2 ways that distal convoluted tubules are involved in pH regulation in body

.....  
.....





|  |  |  |           |          |           |
|--|--|--|-----------|----------|-----------|
|  <b>රත්නවල බාලිකා විද්‍යාලය - ගම්පහ.</b><br><b>Rathnavali Balika Vidyalaya - Gampaha.</b> |  |  | <b>09</b> | <b>E</b> | <b>II</b> |
| <b>Final Term Test – 2024 A/L</b> <b>Grade 12</b>  |  |  |           |          |           |
| <b>Biology II</b>  |  |  |           |          |           |

### Part –B- Essay

❖ Answer 4 questions only

5. a) Describe the proteins of plasma membrane with their functions  
b) Explain the contribution of proteins for the catalyzing of reactions
6. a) Describe the structure of chloroplast  
b) Describe the process of photosynthesis happens in the stroma
7. Describe the responses of plants for gravity, mechanical and cold stresses
8. a) Describe the composition and functions of human blood  
b) Describe the basis of ABO blood grouping
9. a) Describe the role of T lymphocytes in acquired immunity  
b) Mention the role of collecting duct in urine formation
10. Write short notes on,
  - a) ATP
  - b) Guttation
  - c) Growth rings

