

Gampaha Education Zone- Second Term Evaluation - Grade 13/2025 AL

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Gampaha Education Zone

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Second Term Evaluation - 2025
இரண்டாம் தவணைப் பரீட்சை - 2025

Grade

13

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Subject

Biology-II

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Time

3 hours

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பெயர்
Name

Class:

For Examiner's use only

Important :

- ❖ *This question paper consists of **12 pages***
- ❖ *This question paper comprises **Part A and Part B**. The time allotted for **both parts is 3 hours***

Part A – Structured Essay: (11 pages)

*Answer all the questions on this paper itself. Write your answers in the space provided for each question. Please note that **the space provided is sufficient for your answers** and that extensive answers are not expected*

Part B – Essay: (Page 12)

*This part contains **6** questions of which **four** are to be answered. Use your papers for this purpose. At the end of the time allotted for this paper, **tie the two parts together so that Part A is on top of Part B** before handing them over to the supervisor.*

Part	Q. No.	Marks
A B	1	
	2	
	3	
	4	
	5	
	6	
	7	
	8	
	9	
	10	
	Total	

I	II	Final marks

Part A- Structured Essay

❖ Answer all the questions

01)A.

I. Mention two reasons to show that water is important for the existence of life on earth

.....

.....

II. a) Mention two examples of hexoses which can be categorized under aldose

.....

b) Mention the structural difference between animal fat and plant fat

.....

.....

III. a) Mention the type of protein that keratin is included and mention its function

.....

.....

b) Mention the function of most abundant RNA type

.....

IV. Mention the values of resolution and magnification of electron microscope

Resolution -.....

Magnification -.....

V. Mention two structural differences between rough ER smooth ER

.....

.....

B.

I. a) Mention the final result of cell division with mitosis

.....

b) Mention two importance of mitosis in addition to asexual reproduction

.....

.....

II. Mention two events of meiosis that are important for genetic variation

.....

III. a) Define cofactors

.....

b) Mention an example for reversible inhibitor -.....

IV. a) Define absorption spectrum

.....

b) Mention the enzymes which are important for Carbon dioxide fixation in C₄ plants

.....

c) What is the equipment that is used to determine the rate of photosynthesis

.....

V) Mention 2 steps of aerobic respiration happen in the mitochondria with phosphorylation

.....

C.

I. a) How many years ago the evolution of the first photosynthetic organisms is happened

.....

b) Mention 3 eras of Phanerozoic eon

.....

III. a) Mention two principles of Lamarck theory

.....

b) Mention two criteria related to the genetic materials of organisms in modern classification system

.....

III. a) Mention two examples of Protista having pellicle without cell wall

.....

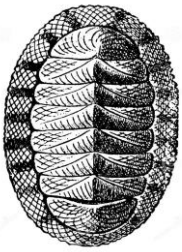
b) Mention two phyla with seedless vascular plants

.....

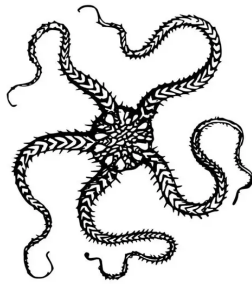
IV. Mention a fungus genus that produce exogenous sexual spores

.....

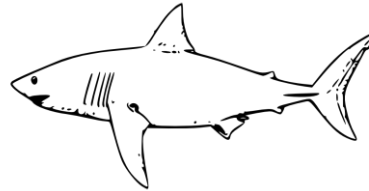
V. Mention the phylum of below mentioned animals



(a)



(b)



(c)

a)

b)

c)

2) A.

I. a) Mention two physiological features of meristematic cells of plants

.....

b) In which parts of plant cells that changes happened during cell differentiation process in meristem

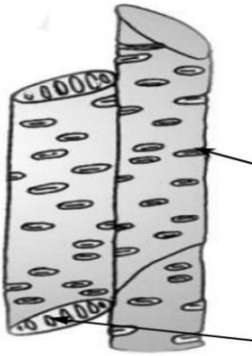
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II. Mention the specialized cells found in the epidermis of primary plant stem

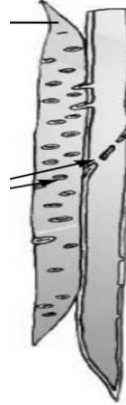
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III. a) Through which structure that water is moved from one cell to the other cell, in A and B structure showed below

A-..... B-.....



A



B

b) Mention how cell wall of A is differed from cell wall of B

.....

IV. a) Mention the role of ABA during potassium influx hypothesis

.....

b) What happens to the solute potential, when sucrose is added to a water container with zero water potential.

.....

V. Mention the significance of crossing water and minerals a plasma membrane before enters the vascular cylinder

.....

.....

B.I. Mention a common deficiency symptom of plants due to C, O, H, and Mn, Fe

- C, O, H -.....
- Mn, Fe -.....

II. a) What is meant by "each producing other" in heteromorphic alternation of generation in terrestrial plants

.....

.....

b) Mention a seedless vascular plant genus with monoecious gametophyte

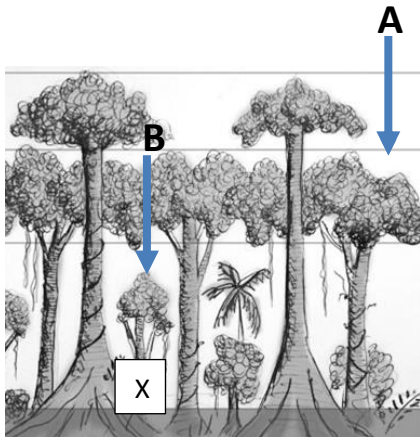
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III. What is meant by fruit found in Anthophyta

.....

IV. a) Mention the special requirement related to light for the X plant below the canopy

.....



b) Mention the light rays named as A and B

A-..... B-

c. Mention the physiological change happens in the X plant due to B rays

.....

V. Mention two plant growth regulators that has opposite actions in leaf abscission

.....

C.

I. Mention two locations with fibrous connective tissue

.....

II. a. Mention two feeding mechanisms found in the vertebrates

.....

b. Mention two types of inactive enzymes secreted to the duodenum

.....

III. a. Mention the disadvantage of single circulation when compared with double circulation

.....

b. Mention three layers of tissues found in human heart wall from outside to inside

.....

c. Mention 3 antigens found on the plasma membrane of red blood cell

.....

IV. Mention two respiratory pigments found in the invertebrates

.....

V. Mention the causative agent for tuberculosis -.....

3)

A.

I. a. Why innate immunity is known as non-specific defense mechanism

.....

.....

b. Mention antimicrobial proteins activate in internal defense of innate immunity

.....

II. Mention the advantage of increasing permeability of blood vessels by histamine during inflammation

.....

.....

III. a. Mention two autoimmune diseases caused by T cells

.....

b. Mention an autoimmune disease caused by B cell-.....

IV. a. Mention the need of excretion in animals

.....

.....

b. Mention the nitrogenous excretory product of following animals

Tuna -.....

lizard -.....

shark -.....

V. a. Mention an ion which is actively secreted in distal and proximal convoluted tubule

.....

b. Mention the function of aldosterone in collecting duct

.....

.....

B.

I. Mention an **endocrine gland and its hormone** that is formed by human fore brain, involved in the prevention of maturity of gonads before puberty

.....

II. Mention the location of human mid brain

.....

.....

.....

III. a. Mention 3 factors that are important to maintain resting potential

.....

.....

.....

b. To which kinds of stimuli that mechanoreceptors are responded

.....

IV. a. Mention the fluid in front of lens of human eye

.....

b. By which structure that above mentioned fluid is secreted -.....

c. Mention the accommodation of human eye in close vision

.....

.....

V. a. Define hormone

.....

.....

.....

b. Mention a hormone produced by hypothalamus, used in positive feedback mechanisms

.....

C. I. a. Mention the main difference between budding and fragmentation & regeneration asexual reproduction methods

.....

.....

.....

.....

b. Mention the exact location of primordial germ cells in a male

.....

II. Mention 2 negative feedback mechanisms that regulates the production of male sex hormones

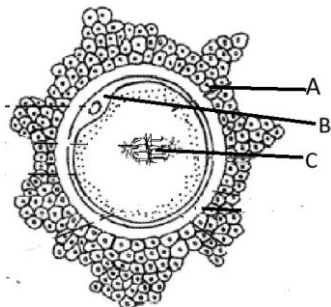
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IV. a. Identify following diagram

.....



b. Mention the function of A, B and C

A-.....

B-.....

C-.....

V a. Mention a unique feature used to identify cervical and thoracic vertebrae respectively

Cervical -

Thoracic -

b. How many ATP molecules are needed to complete one cycle by forming cross bridge

.....

4) A

I. a. Which is explained by Mendel's first law

.....

.....

b. Mention the number of genotypes that can be present in an organism with 2 dominant traits

.....

II. a. Which is indicated by presence of more offspring having parental genotypes in the inheritance of *Drosophila* body colour and wing size

.....

b. Which triggers for the production of a relatively small number of off spring with non-parental phenotypes

.....

III. Mention 2 factors for the resulting epigenetics

.....

.....

IV. a. Write the equation for HW equilibrium, with the meaning of those symbols

.....

.....

.....

.....

b. Mention 2 others conditions that disturb the HW equilibrium in a population with natural selection

.....

.....

V. Mention the breeding method which is done between genetically similar individuals

.....

B.

I. Mention 3 functions of chromatin that consist nucleotide sequence which are mostly inactive

.....

.....

.....

II a. Define DNA replication

.....

.....

b. Mention the RNA polymerase which forms DNA-RNA hybrid

.....

III. Mention the term used for following explanations

a. The non coding sequences within the gene

.....

b. A group of genes that functions as a single transcription unit in prokaryotes

.....

c. Removal of incorrect nucleotides, then continue its polymerization activity

.....

IV. a. Mention the term used to explain the change in chromosome number from one

.....

b. What is meant by non-disjunction

.....

Mention three steps of PCR thermal cycle

.....

.....

.....

C.

I. Mention the level of organization of the environment with collection of populations of different species

.....

II. Mention two differences between 2 types of tropical forest in addition to rainfall and temperature

.....

.....

III. According to Ramsar convention what should be the depth of a wetland having marine water

.....

IV. Mention two groups of mangrove plants with one example

.....

.....

V. Answer the following questions

a. Conservation process in the Minneriya national park

.....

b. Man made industrial greenhouse gas

.....

c. pH of normal rain water

.....

d. Set of practices that is followed by stakeholders

.....

