G.C.E. (A/L) Student Support Seminar - 2013
Revision Paper
Biology II
Launched under the Supervision of Ministry of Education

Index No : .....

Instructions

*This question paper consists of two parts; A and B. The time allocated for both the papers are three hours.

Part - A Structured essays

*Answer all questions in this paper itself.

*Use the spaces given in the paper in answering the questions. Use only the spaces given in writing answers. Writing descreptive answers are not expected.

Part - B Essay Type questions

*Answer four questions only. Use the papers supplied in answering questions. Attach Paper A to Paper B, keeping Paper A on top of the answer script and hand over the completed answer script to the supervisor.

*You are permitted to take Part - B of the question paper out of the examination centre.

For Examiners' use only.

Part	Question Number	Marks
A	1	
	2	
	3	
	4	
B	5	
	6	
	7	
	8	
	9	
	10	
Total		
Percentage		

Final Marks

In Figures	
In Letters	

Code Numbers

Marking examiner	
Checked by	1
	2
Supervision	

Biology - II

Part - A - Structured Essay

Answer all Questions in this paper.

(Ten marks are allocated for each question)

(01). (A). (i) What are the elements found in trace amounts in plants, but large amounts in animals?

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(ii) Briefly describe the activity of amylase on Starch.

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(iii) What is a Lipid?

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(iv) Mention three varieties of Lipids occur in organisms except Fats and Oils.

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(v) What is known as the Quaternary Structure of a Protein? Name one example for it.

Quarternery Structure

.....

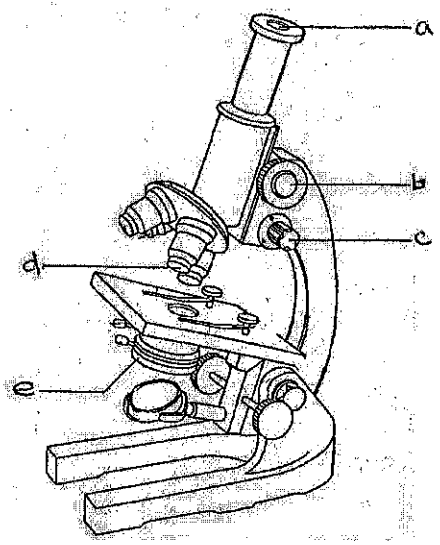
.....

example.....

(vi) State the main function of Proteins given below.

Protein	Function
a. Keratin	.....
b. Albumin	.....
c. Mioglobin	.....
d. Insulin	.....
e. Actin	.....

(B).



(i) Name the parts, a,b,c,d,e,of the above diagram.

a. ..... b. .....

c. ..... d. .....

e. .....

(ii) (a). What is called Resolution Power?

.....

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(b). What is the maximum resolution power of an electron microscope?

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(iii) If you are given a part of Onion tissue (epiderm), write down the steps you follow in the sequential order when observing the tissue through microscope.[Necessary materials and instruments are provided.]

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(iv) Name the Cell Organelles, which perform following functions.

	Function	**Organelle**
a.	Synthesis of Lipids, Steroids and Carbohydrates	.....
b.	Storing of modified molecules in secretory vesicles.	.....

c. Conversion of fats to carbohydrates .....

(v). a. What is called a Cytoskeleton?

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. b. Mention three functions of it.

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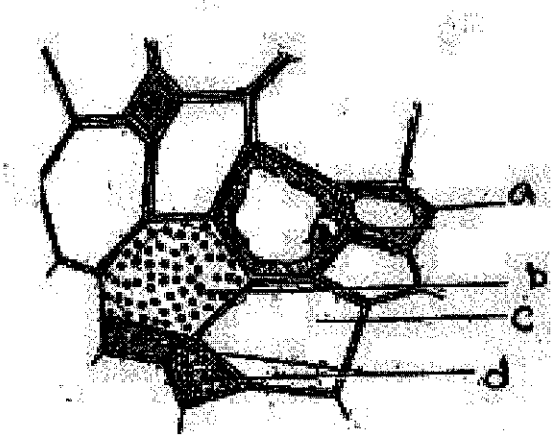
(C)



(i) Name the above diagram

.....

(ii) Name the parts a, b, c, d.

a. .....

b. .....

c. .....

d. .....

(iii) State the type of Connective tissue found in given places.

a. Inter Vertebral disc .....

b. Rib Cartilages .....

c. Dermis .....

d. Epiglotis .....

(iv) State one Structural similarity between a Smooth Muscle cell and a Heart Muscle cell.

.....

.....

(v) State one functional difference between a Smooth Muscle cell and a Heart Muscle cell.

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(02) (A)

(i) Names of some Organisms are mentioned in the first column of the following table. Write down the domain and Kingdom of these animals in given places.

Name of Organism	**Domain**	**Kingdom**
(a) *Hirudo*	.....	.....
(b) *Allomyces*	.....	.....
(c) *Pogonatum*	.....	.....
(d) *Necator*	.....	.....
(e) *Nostoc*	.....	.....

(ii) Name the Phyla belong to Kingdom Protista.

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.....

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(iii) Name the Phyla of Organisms that do not possess a cellwall from the Phyla you mentioned above and write one organism for each phylum.

Phylum	**Organism**
.....	.....
.....	.....

(B) (i) Write three characteristic features, which can be seen only in Phylum Coelenterata.

.....

.....

.....

(ii) What is the animal phylum, that a true coelom first found in the evolutionary process.

.....

(iii) Name a class of animals with these features. Open circulatory System, respiratory Pigments and Antenna.

.....

(iv) Write one specific excretory structure that can be seen among given groups of animals.

Animal group	**Special Excretory Structure**
(a) Polycheata	.....
(b) Turbelaria	.....
(c) Arachnida	.....
(d) Amphibia	.....
(e) Crustacea	.....

(C). (i) A list of Organisms and some important features that can be seen among them are given below.

List of Names

(1) *Obelia*
(2) *Bipalium*
(3) *Allomyces*
(4) *Selaginella*
(5) *Clostridium*
(6) *Paramecium*
(7) *Penicillium*
(8) *Saccharomyces*
(9) *Anabaena*
(10) *Ulva*
(11) *Sargassam*
(12) *Gelidium*
(13) *Pinus*
(14) *Necartor*
(15) *Nephrolepis*
(16) *Chlamydomonas*

Select the corresponding organism to each characteristic from the list and write correct number of the relavant organism.

eg :- A Protista with Pseudopods .....16.....

Features	**Number**
1. A heterotroph which fixes Nitrogen.	.....
2. Having a branched Conidiophore.	.....
3. An autotroph without Chloroplasts.	.....
4. A diploblastic marine organism.	.....
5. Display Homogenous alternation of Generation	.....
6. A freeliving triptoplastic Aceoelomate	.....
7. A ciliate with contractile vacuoles.	.....
8. An aquatic fungal variety, which produces motile gametes.	.....
9. Seedless palnt with Heterospory	.....
10. A monoecious gametophyte.	.....
11. Pathogenic Nematode	.....
12. Heterosporic plant with naked seeds	.....
13. Unicellular organism which reproduce through budding.	.....
14. Photosynthetic Organism with Chlorophyll C pigement.	.....
15. A marine Rhodophyta.	.....

(ii) Name the two classes belong to phylum Anthophyta and write five main differences between them.

(a) Class ..... **(b) Class** .....

Differences between two classes.

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(3) (A) (i) What is called Co-ordination?

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(ii) How does the Blood Circulatory System contribute towards Co-ordination process?

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(iii) Write down two differences between electro-chemical co-ordination and chemical co-ordination.

electrochemical Co-ordination	**Chemical Co-ordination**
.....	.....
.....	.....
.....	.....
.....	.....

(iv) (a) What is meant by "Resting Potential", related with transmission of Nerve Impulse?

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.....

.....

(b) Name three factors affect on "Resting Potential" of a Neuron.

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(v) What are the factors, which affect the speed of transmission of nerve impulse.

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(B) (i) Different types of Nervous systems are found among Animal Phyla. Name one phylum suits with given describing Nervous Systems.

(a) Nervecord with well modified eyes and ganglion.

.....

(b) Having a Nerve net with multi-polar neurons and synapses without Nerve cord.

.....

(c) Having giant nerves in Double Ventral Solid Nerve cord.

.....

(d) A pair of lateral longitudinal nerve cord with cerebral ganglion.

.....

(e) Single Dorsal Tubulular Nerve cord.

.....

(ii) Draw a labelled diagram of a Vertebrate Motorneuron to illustrate the structure in given space below.

(iii) Main parts of the Human brain are given below in brackets.

(Cerebellum, Mid brain, Pons varolii, Thalamus, medulla Oblongata)

Select and write down the part, important for the functions given below.

(a) Integration of Sensory information and send to the Centres of brain. .....

(b) Co-ordination of Volunteer muscles .....

(c) Altering the shape and size of eye lens .....

(d) Regulation of Inhalation and Exhalation .....

(e) Regulation of Heart beat .....

(iv) What is called Autonomic Nervous System?

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(v) Write three responses shown by human body when Sympathetic Nervous System get Stimulated.

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(C) (i) Name the sensory structure / structures of Human Skin related with given sensory functions.

(a) Perception of Tactile stimuli .....

(b) Perception of Pressure changes .....

(c) Perception of Temperature Changes .....

(d) Perception of Pains .....

(e) Name the Sense Organ / Structure of Coelenterates, which perceive stimuli related with gravity.

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(ii) Briefly describe the location of Pitutory gland of Man:

.....

.....

(iii) Name <u>two</u> non-trophic hormones, secreted by Human Anterior Pitutory and write one function of each.

Hormone **Main Function**

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(iv) Name three endocrine glands, which synthesize, steroid hormones in Human body.

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(v) State the main growth substances which stimulate these activities in plants.

(a) Breaking seed dormancy .....

(b) Induce Cell division .....

(c) Apical Dominance .....

(d) delaying of leaf aging .....

(e) Ripening of fruits .....

(f) Inhibit Leaf fall .....

(4) (A) Natural resources should be used sustainably.

(i) What is meant by the term "Natural resources".

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(ii) Soil is a Natural Resource. What are the Pollutants which affect Soil Pollution.

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(iii) (a) Name three Solid Wastes.

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(b) State four environmental issues caused due to heaping of Solid Wastes on soil surface exposed to environment.

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(iv) Name three methods applied in Sri Lanka for management of Solid Wastes.

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(v) What is the convention that limits transporting and dumping of Hazardous waste between borders of countries.

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(B) (i) What is known as extinction?

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(ii) Name one plant species, which is extinct in the wild in Sri Lanka.

.....

(iii) Introduce the term **"Relic Species"**.

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(iv) About how many years ago the Amonytas became extinct?

.....

(v) Mention five human activities which affect the extinction of Biodiversity.

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(C) (i) What do you understand by the terms given below.

(a) Eco System

.....

.....

.....

(b) Environmental Niche

.....

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(ii) (a) When was said to be the origin of the earth occured?

.....

(b) When did the origin of the modern man occur?

.....

(iii) (a) Write the names of five gases said to be found in the Primodial atmosphere.

.....

.....

(b) Name four main air pollutants which pollutes the atmosphere.

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(iv) (a) Name the Scientist, who introduced the theory of Biochemical evolution first?

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(b) Mention the nutrition method and respiration method of organism originated first on earth.

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(v) Name the period of Archaeozoic that gave rise to the origin of these organisms.

(a) Bacteria .....

(b) First Amphibian .....

(c) Dinosaurs .....

Biology - II

Part B - Essays

- Answer four Questions only.
  Give clearly drawn labelled diagrams when necesssary.

(Fifteen marks are allocated for each question)

(5) (a) Briefly describe the process of producing a Glucose molecule from a Carbondioxide molecule which enter through stomata of sugarcane (*Sacchanum offcinarum*) leaf.

(b) Mention the main differences between C_3 Photosynthesis Process and C_4 Photosynthesis Process

(6) (a) What is Transpiration?

(b) Name the external factors and internal factors that affect Transpiration. Explain the influence of these factors on Transpiration.

(c) What are the differences between Transpiration and Guttation.

(7) (a) Describe in brief the structure of human uterus.

(b) Explain the Human Menstrual Cycle.

(8) (a) Briefly describe the usage of Micro organisms in Food and Beverage Industry.

(b) Explain the chemical changes take place in food, when spoiling.

(c) Write a short account on Preservation of Dairy Products.

(9) (a) What is a Weed?

(b) Write characteristics of Weed with a suitable example.

(c) Name three principles behind the controlling methods of Weeds.

(d) Mention the methods of controlling Weeds. Write advantages and disadvantages of each method, you mentioned above.

(10) Write Short Notes.

(a) The Structure of a Nephron.

(b) Invasiveness Toxogenicity

(c) Apical Dominance.