FWC

G. C. E A/L Examination November - 2015

Conducted by Field Work Centre, Thondaimanaru
In Collaboration with
Zonal Department of Education Jaffna.

Grade: - 13 (2016)	Biology - II	Time: - Three hours

A - Structured Essay

(A) (i)Name 2 structural components of carbohydrates and state the monomers of them

Carbohydrate	Monomer
.....	.....
.....	.....

(ii) Name 2 sugars which can give brick red and also have glycosidic bonds.

.....

(iii) Name 2 chemicals to identify the peptide bond in protein?

.....

(iv) State the components found in a phospholipid molecule?

.....

.....

(v) Name 3 nucleotides which take part in bio chemical reactions and state one activity that is catalyzes by each of them

Nucleotide	Activity
.....	.....
.....	.....
.....	.....

(B) (i) What is codon?

.....

.....

(ii) State the chemical components found in RNA molecule?

.....

.....

.....

(iii) State the advantages of appropriate taxonomy in the study of organisms

.....

.....

.....

.....

(iv) What are the molecular levels can be used in taxonomy of organisms?

.....

.....

.....

.....

.....

(C) (i) Give the characteristic features of Domain Bacteria.

.....

.....

.....

.....

.....

.....

(ii) Same features of phylum Annelida axe given below in the following chart. If the animals in the column 2 - 4 consist the following characters, put an (✓) mark to indicate them.

Characteristics	*Nereis*	Leech	Earthworm
Clitelum			
Parapodia			
Eyes			
Setae			

01) A) (i) Name the structures through which transpiration taken place in plant body

.....

(ii) State one advantage & disadvantage of transpiration.

Advantage - .....

.....

Disadvantage - .....

.....

(iii) Give the structural modifications in plants to reduce transpiration with appropriate example.

Structural modifications	example
.....	.....
.....	.....
.....	.....

(iv) Give two internal & external factors affective the transpiration.

.....

.....

.....

(B) Give the experimental steps you make to observe the distribution of stomata in tropical leaf.

.....

.....

.....

.....

.....

.....

.....

.....

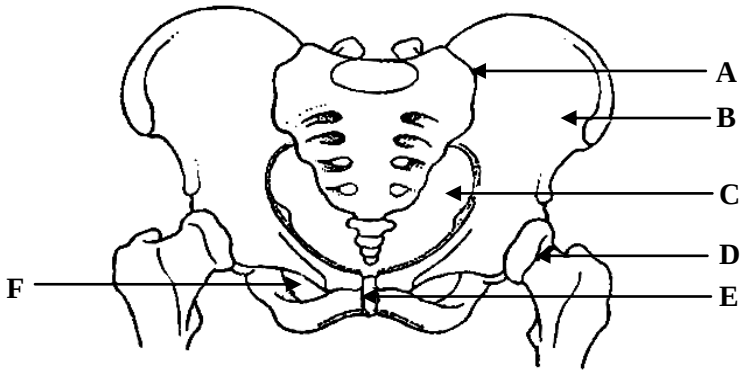
.....

.....

(C) Substances are reabsorbed during the urine formation in a nephron
Complete the given chart regarding the following substances.

Substance / ions	reabsorbing Place/s	Method of reabsorption
(i) Glucose	.....	.....
(ii) Amino acid	.....	.....
(iii) water	.....	.....
(iv) Na^+	.....	.....
(v) HCO_3^-	.....	.....

02) (A) The following diagram indicates the lower limb of human and the associated structures.



The following (1) - (vii) Questions and based on the diagram.

(i) Name the parts A - F

A - .....

B - .....

C - .....

D - .....

E - .....

F - .....

(ii) Give 2 differences of vertebrae 'A' from typical vertebrae?

.....

.....

(iii) Give the reasons for this variation?

.....

.....

.....

(iv) Name the Bone / Bones in which the proximal and distal ends of femur articulate?

Parts		Bones articulating
Proximal end	-	.....
Distal end	-	.....

(v) Name the bones which make pelvis.

.....

(vi) Which bones combined to form part 'C'?

.....

.....

(vii) Give 2 variations which can observe in part 'C' regarding the sexual character.

.....

.....

.....

(B) (i) Which bone is initially touch the ground during bipedal walking?

.....

(ii) What are the arches which can be observe in a human foot?

.....

.....

(iii) a) Give 2 advantages of arches of the human foot?

.....

.....

b) Give the bone formula of lower limb?

.....

(iv) a) What are the two specific movements in the forearm of human?

Movement - I .....

Movement - II .....

b) How the specific movements of forearm will cause?

Movement - I .....

Movement - II .....

(C) (i) What are the 2 specific features of a cervical vertebrae?

.....

.....

(ii) Name the primary curve / curves of human vertebral column

.....

.....

(iii) Give 2 problems if the vertebral column is in a straight position.

.....

.....

(iv) Give a method to prevent the slip disc disease.

.....

(v) Give 2 special structural characters of skeletal muscle?

.....

.....

03) (A) (i) What is meant by vegetative reproduction in plant?

.....

.....

(ii) State the types of vegetative reproduction with appropriate examples?

Types	Example
.....	.....
.....	.....
.....	.....
.....	.....
.....	.....
.....	.....

(iii) What is Tissue culture?

.....

.....

(iv) Name the components of the medium which is selected for tissue culture?

.....

.....

(v) a) What is meant by totipotency in plants?

.....

.....

b) Except the micro propagation give 2 uses of tissue culture in plants.

.....

.....

(B) (i) State the functions of the secretions of the seminal vesicle regarding male reproductive system.

.....

.....

.....

.....

(ii) Give the location of the seminal vesicle in the male reproductive system?

.....

.....

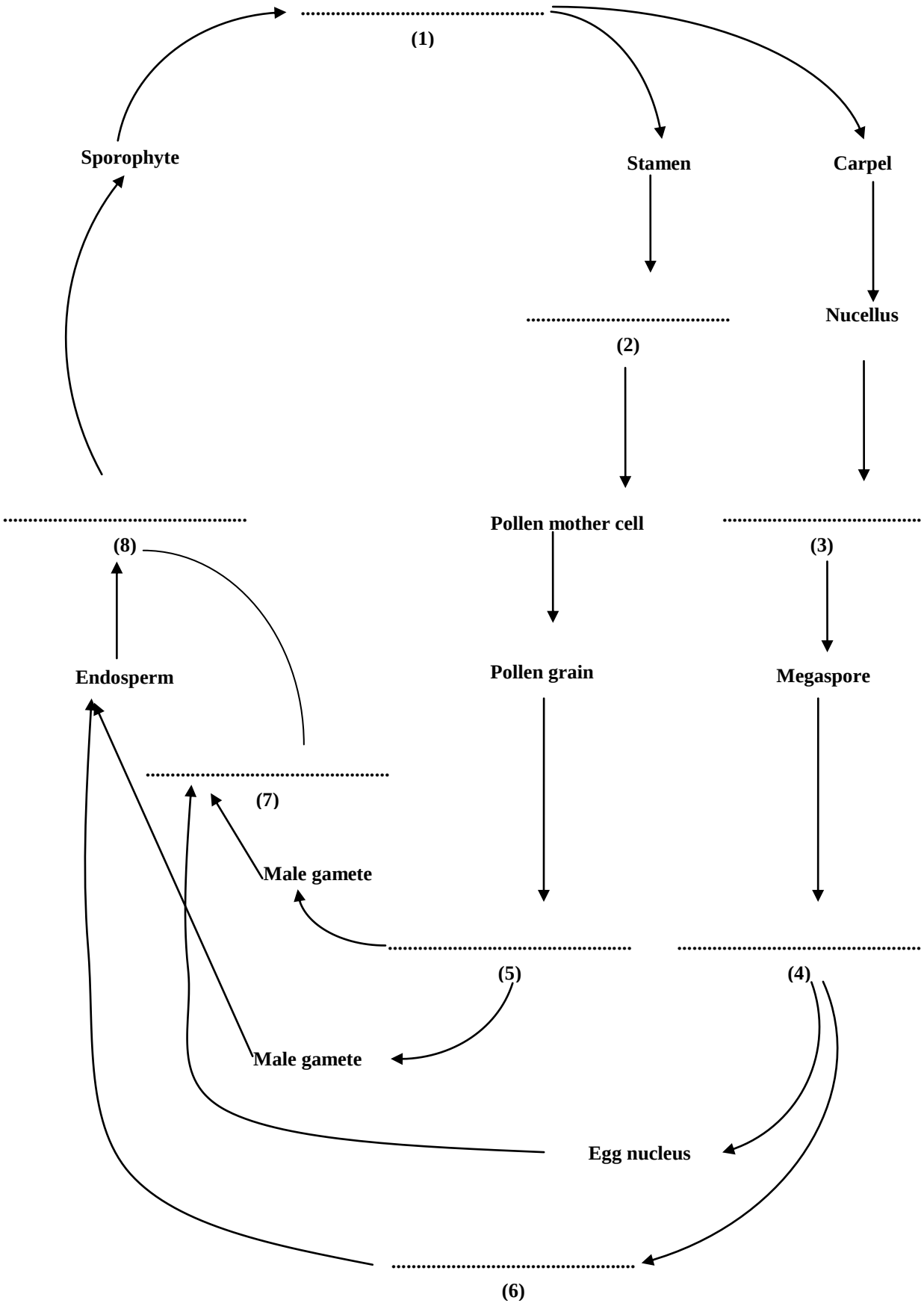
(iii) Name the Hormone responsible for the secondary sexual characters of males?

.....

(iv) Name the structure / structures which secret the following Hormones & give the target place / places of those hormones

Hormones	Secreting gland/s	Target Place/s
1) *F S H*	.....	..... .
2) Inhibin	.....	..... .
3) Oestrogen	.....	..... .

(C) The flow chart indicates the various stages of life cycle of a plant.



(i) Name the correct phylum of plant to given life cycle?

.....

(ii) Name the stages of 1 - 8

1 - ..... 2 - .....

3 - ..... 4 - .....

5 - ..... 6 - .....

7 - ..... 8 - .....

(iii) State the important evolutionary characters of above plant phylum.

.....

.....

.....

.....

(iv) Draw the structure (4) and label.

(v) Complete the blanks given in the chart which includes the haploid diploid structures of life cycle.

Diploid structure	Haploid structure
.....	.....
.....	.....
.....	.....
.....	.....
.....	.....

(vi) What is a seed?

.....

.....

B - Essay

Answer any **four** Questions

04) a) Describe the gross structure of Human heart.

b) Explain the mechanism of conducting system of heart.

05) Describe the sliding filament theory of skeletal muscle contraction.

06) a) What is enzyme?

b) State the characteristic features of an enzyme activity.

c) Write an essay on factors affecting enzyme activity.

07) a) Describe the structure of a motor neuron.

b) Describe the nerve impulse conduction *on* an axon.

08) Describe the changes of protein in the Human digestive system.

09) Write short notes on the followings:

i) Posterior pituitary hormones

ii) Implantation

iii) Silicosis