

GREENLAWNS HIGH SCHOOL  
PRELIMINARY EXAMINATION YEAR 2018-19

SUBJECT : BIOLOGY  
TIME : 2 HRS

CLASS : X  
MARKS : 80

-----  
Answer to this paper must be written on the paper provided separately.

You will not be allowed to write for the first 10 mins. This time is to be spent on reading the question paper. This paper has 2 sections. Section I is the compulsory section.

**Section II has 6 questions solve any 4.**

**Question 1**

[10]

a) Name them.

- i) 22 pairs of chromosomes present in the cells responsible for body characteristics.
- ii) Absorption of water by plants through surface tension.
- iii) Breakdown of water molecule by light.
- iv) Plant hormones that have a negative effect on growth.
- v) Chemicals applied to a leaf to reduce rate of transpiration
- vi) Instrument used to measure heartbeat.
- vii) Part of eye responsible for its shape.
- viii) Increase in level of toxic chemicals at each trophic level.
- ix) Sudden Changes in the genetic combination
- x) Form of energy which contains high energy particles.

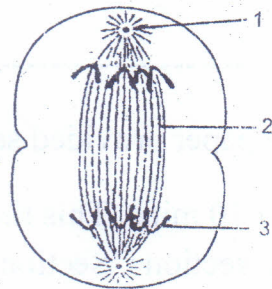
b) Draw a punnet square showing the genotype and phenotype of the F<sub>1</sub> and phenotype of F<sub>2</sub> generation between Homozygous tall trees with Red flowers and Homozygous Dwarf trees with white flower. [3]

c) Give function and location of the following. [5]

- i) Bicuspid valve
- ii) Uterus
- iii) Stomata
- iv) Spindle fibres
- v) Stroma

d) The diagram below shows a stage of cell division. Study the same and answer the question that follow.

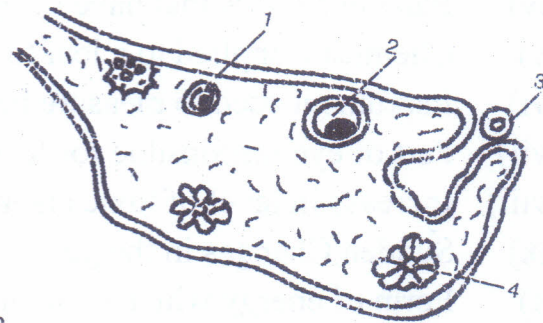
4 1/2



- i) Name parts 1,2,3
- ii) Identify the stage of cell division.
- iii) Give a reason to support your answer.
- iv) Draw a stage prior to the one shown in the diagram.
- v) In which cells of the human body does this type of reproduction take place.
- vi) Give 1 difference between cell division in plant & animal cell.

e) The diagram along side shows particular phases of a particular cycle. Study the diagram and answer the questions that follow.

[5]



- i) Label parts 1,2,3,4
- ii) Difference ovulation/ oogenesis
- iii) What is the role of Part 4.
- iv) What do you mean by implantation
- v) The father responsible for the gender of the child. Justify.

f) Match the column.

[5]

- |                           |   |
|---------------------------|---|
| i) Australopithecus       | a) 800 -1120 cc                         |
| ii) Homo habilis          | b) characters acquired during lifetimes |
| iii) Homo erectus         | c) vestigial organ                      |
| iv) Peking man            | d) 1450cc                               |
| v) Neanderthalman         | e) Darwin's theory                      |
| vi) Adaptive characters   | f) 450 - 600 cc                         |
| vii) Natural selection    | g) 900 cc                               |
| viii) Pinna               | h) characters obtained parent from      |
| ix) Use/ disuse of organs | i) Lamarcks theory                      |
| x) Inherited character    | j) 680-735 cc                           |

g) Give reasons for the following statement.

[2] 1/2

- i) Salt and sugar is added in excess do preserve food.
- ii) Land plants die if their roots remain water logged.
- iii) Gibberellins can increase the sugar yield.
- iv) Urine is slightly thicker in summer than in winter.
- v) Birth rate is high in India (2 reasons)

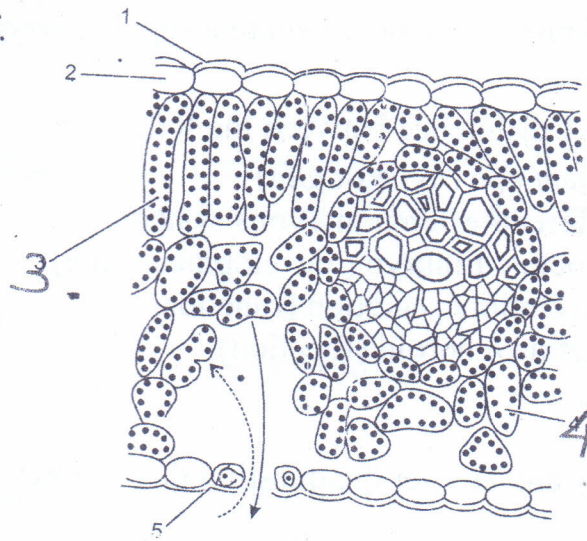
h) i) Draw a neat well labelled diagram of the T.S. of a sperm [5]

- ii) Give the function of enzyme present in it
- iii) How is the entry of a second sperm into the zygote prevented
- iv) Rearrange in the correct order : zygote, blastocyst, ovum, foetus, morula
- v) What is the gestation period of humans.

**SECTION - II**

Q.2. a) Study the V.S of the dicot leaf.

[5]



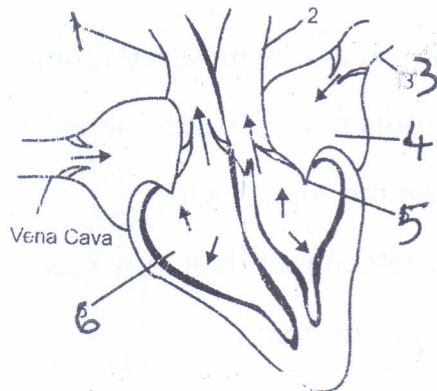
- i) Give 2 differences between 3 and 4.
- ii) What is the importance of 1 in desert plants.
- iii) Define the process by which water moves from cell to cell.
- iv) 'Transpiration is incidental' Justify
- v) Give 2 difference between photosynthesis and respiration.

b) Define

[5]

- i) homologous chromosomes
- ii) Sex linked inheritance
- iii) Root pressure
- iv) Accommodation of eye
- v) Feedback mechanism

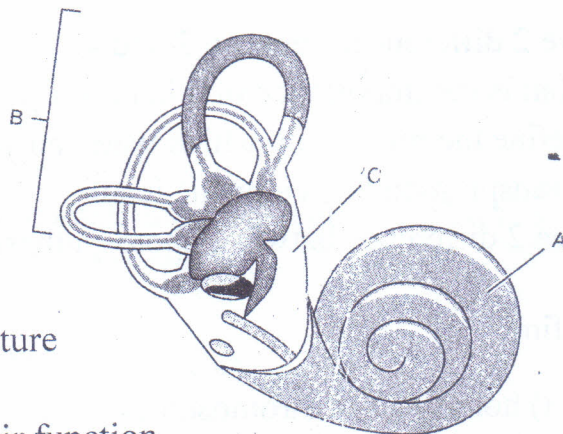
Question 3.



- a) The above diagram shows a section of the heart [5]
- i) Label parts 3,4,5,6
  - ii) Name the phase
  - iii) List 2 changes seen during this phase
  - iv) Give 1 functional difference between parts 1 and 2
  - v) Why are the walls of the ventricles thicker than those of the auricles.
  - vi) Name the blood vessel that supplies oxygenated blood to heart muscles.
- b) Give 1 difference between the following. [5]
- i) Man/ ape ( type of gait)
  - ii) afferent/ efferent nervous system
  - iii) Foetus/ Embryo ( development time)
  - iv) Excretion/ sécretion (function )
  - v) Retina /choroid (function)

Question 4.

- a) Study and answer the question that follow: [6]



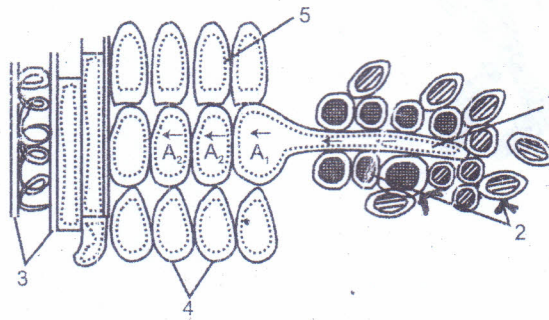
- i) Give the scientific term for the structure
- ii) Give functions of parts A and B
- iii) Name the 2 parts of C and give their function.
- iv) Why do we feel dizzy after a merry go round ride.
- v) Name the sense cells of the ear
- vi) Give the function of the ossicles. Also name them in the correct order

b) Draw a neat well labelled diagram of the V.S. of the eye. Label the parts responsible. [4]

- i) for shape of eyeball
- ii) for coloured portion of eye
- iii) jelly like fluid
- iv) nerve carrying the impulse
- v) layer containing pigment melanin
- vi) opening of the eye.
- vii) Innermost layer of the eye
- viii) white coloured portion of eye

Question 5.

(5)



a) Drawn is a representation of a root hair.

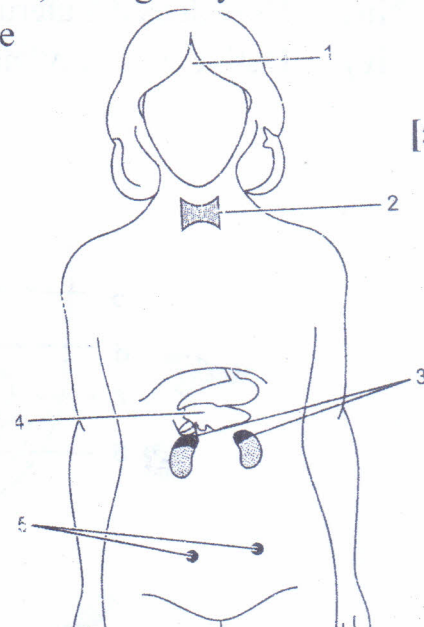
- i) Label parts 1 & 2, 5
- ii) Explain how transpiration leads to absorption of water
- iii) List 3 adaptation of a plant that increase the rate of absorption
- iv) What would you observing if the xylem of a plant is removed. Justify your answer

b) Choose the odd one out glucose, water, oxygen. Carbon dioxide [5]

- i) glucose, water, oxygen, carbon dioxide.
- ii) Urea, ammonia, carbonic acid, creatinine, uric acid
- iii) Thyroid gland, Adrenal gland, pituitary gland, prostate gland.
- iv) Neanderthal man, cro-magnon man, modern man, Tuang baby
- v) Aldosterone, cortisol, progesterone, epinephrine

Question 6

[5]

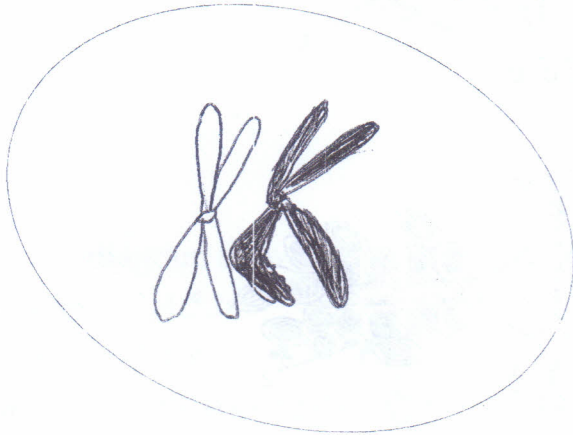


...6/-

- i) Identify the glands 1 -5
- ii) Name the disease associated with the oversecretion of
  - A) Thyroxine
  - B) Growth hormones in adults
- iii) Give the functions of the hormone secreted by 2,5

b)

[5]

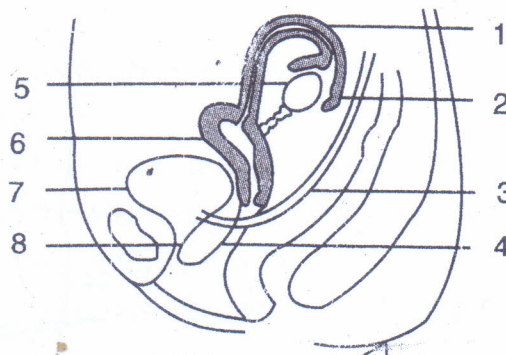


The above diagram showing a particular phenomenon in cell division.

- i) Define the phenomenon
- ii) What is its importance
- iii) Draw a diagram to show the next stage
- iv) Give 3 differences between mitosis & meiosis.

Question 7.

- a) Given below is a diagram representing the female reproductive system. [5]
  - i) Identify 2, 4, 8 and 9.
  - ii) Give the function of 2 and 5.
  - iii) How does the uterus prepare itself.
  - iv) Define mortality/ natality.



5

b) Arrange in the correct sequence

- i) testis, seminal vesicle, prostate gland, urethra, epididymis
- ii) cortex, soil water, xylem, endodermis, root hair
- iii) metaphase, interphase, anaphase, telophase, prophase
- iv) stimulus, response, receptor effector, CNS
- v) antibody, antigen, immune response, foreign body