GREENLAWNS HIGH SCHOOL
PRELIMINARY EXAMINATION YEAR 2020

SUBJECT : BIOLOGY
TIME : 2 HRS.

CLASS : X
MARKS :80

Answers to this paper must be written on the paper provide separately.
You will not be allowed to write for the first ten minutes.
This time is to be spent in reading the question paper.
Section I is compulsory.
Section II has 6 questions. Solve any four.

SECTION - I

Question 1. [10]

a) Name the following:

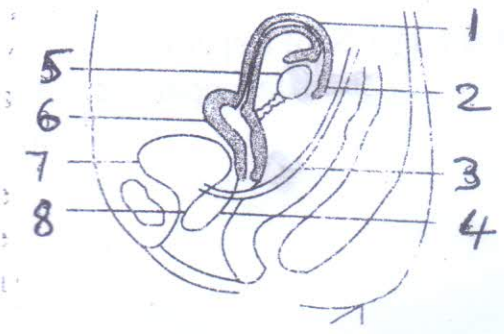
i) Fluid present in the posterior chamber of the eye.
ii) Point at which chromatids are attached to each other
iii) Result of uncontrolled cell division
iv) Technical term for urination
v) A plant having sunken stomata
vi) Blood plasma from which fibrinogen has been removed
vii) Part of the ear associated with static balance.
viii) Expulsion of the foetus by the mother
ix) A chemical pesticide
x) Division of nucleus.

b) Give reason for the following [5]

i) SAN is called the pacemaker of the heart.
ii) A can of dried beans bursts open if some water enters it accidentally.
iii) Veins have valves but arteries do not have.
iv) We urinate more often in winter
v) Use of CFCS is banned in some countries

c) Study the diagram draws below and answer the questions that follow. [5]

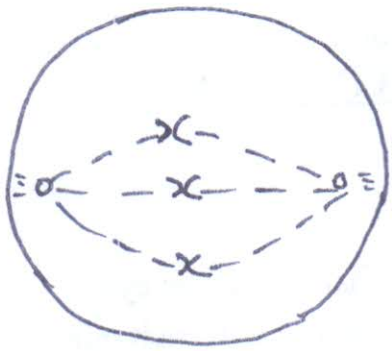
i) Label parts 1,2,3,4,5,6,7
ii) How does the uterus prepare for the reception of the zygote?
iii) What happens to the uterus if fertilization fails?
iv) What happens if fertilization takes place?



d) Define [5]

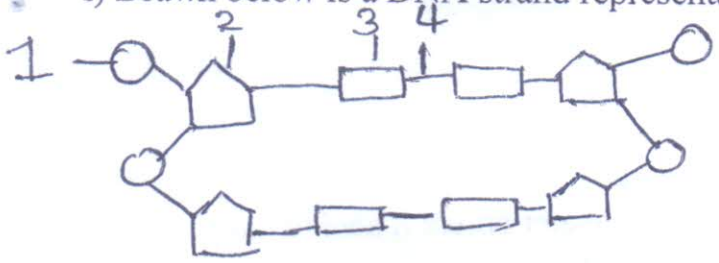
i) cell cycle
ii) Tropism
iii) Evolution
iv) Apical Dominance
v) Plasmolysis.

e) Drawn below is diagram representing a stage during cell division. [5]



i) Is it a plant cell or animal cell? Give a reason for your answer.
ii) Identify the stage. Give a reason for your answer.
iii) Draw the stage prior to the stage mentioned in ii). Name it.
iv) Give difference between mitosis and meiosis on the basis of
A) Number of daughter cells
B) Cells where the division takes place

f) Drawn below is a DNA strand representation. [5]



i) Label parts 1 to 4
ii) What are parts 1,2 and 3 collectively known as?
iii) What is the shape of a DNA strand
iv) Name the phases of a cell cycle
v) Define nucleosome

g) Draw the 1) T.S, of a sperm. [5]
2) Stomatal apparatus

...3/-

SECTION – II

Solve any 4 from the given 6 questions.

Question 2.

a) Write in the correct sequence [5]

i) ear ossicles, oval window, tympanum, auditory canal, cochlea.

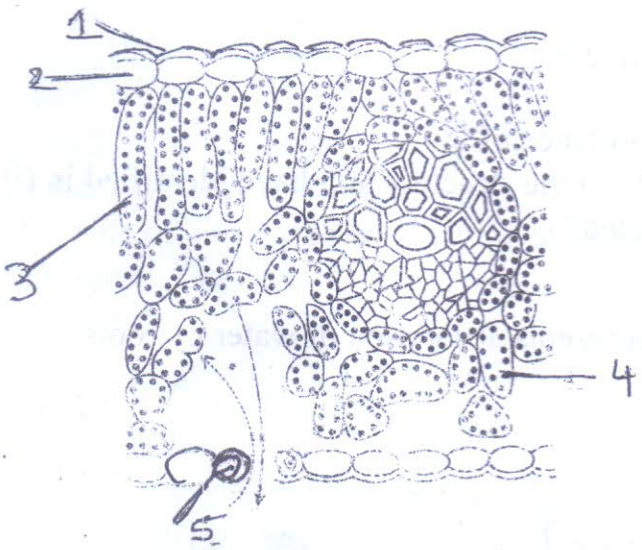
ii) implantation , parturition, fertilization, ovulation, gestation.

iii) clot, thrombin, fibrinogen, prothrombin , fibrin

iv) water molecule, oxygen, grana, photolysis, photon,

v) endodermis , root hair, xylem, sail water, cells of cortex

b) Drawn below is a schematic diagram [5]



i) Identify the diagram

ii) Label parts 1,2

iii) Give 1 functional difference between 3 and 4.

iv) What do the arrowed lines indicate?

v) Name 2 adaptations of plants to decrease transpiration

Question 3.

a) A homozygous tall plant with red flowers is crossed with a homozygous dwarf plant with white flowers [3]

i) Draw a punnet square

ii) Give the genotype & phenotype of the F_1 generation

iii) Also give the phenotypic ratio for F_2 ratio.

b) Give the function and location of the following. [4]

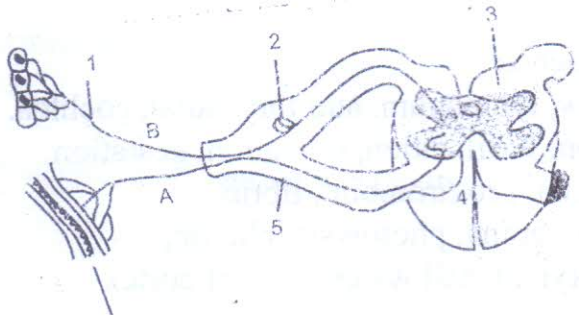
i) Spleen

ii) Pinna

iii) Seminal vesicle

iv) Tricuspid valve

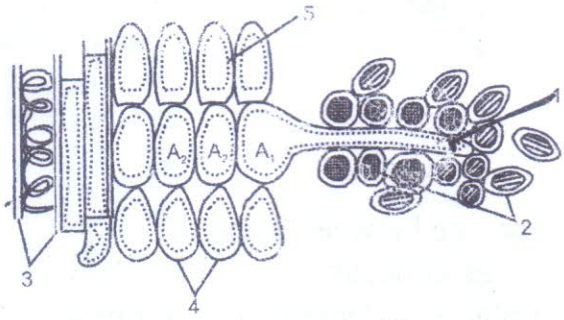
c) Study the diagram and answer the questions that follow. [3]



i) Identify the structure
ii) Label part 1,3
iii) What is the importance of 2
iv) Give 2 functions of the structure you have identified in (i)
v) How is it protected?

Question 4.

a) The diagram above represents absorption of water by roots [5]



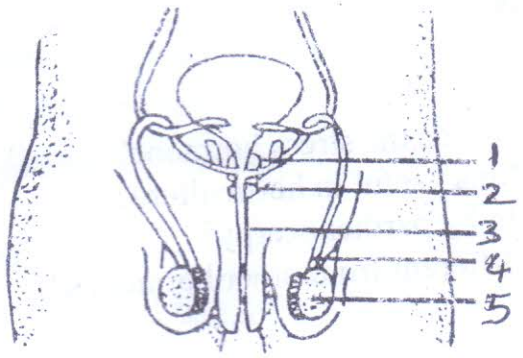
i) Label parts 1 to 5
ii) Is the root hair unicellular or multicellular?
iii) How is the root suited for its functions (2 points)?
iv) Why is it not advisable to use excess chemical fertilizers and pesticides?
v) Draw the root hair to when placed in a hypertonic solution.

b) Choose the odd one out and give a reason for the same. [5]

i) Haemophilia, Colour blindness, night blindness, albinism
ii) Glucose, water, oxygen, carbon dioxide
iii) Systolic pressure, diastole pressure, stethoscope, sphygmomanometer
iv) Rods , cones, night blindness, rhodopsin.
v) Photolysis, oxygen, stroma, hydrogen, granum

Question 5.

a) Study the diagram drawn below and answer the questions that follow [5]

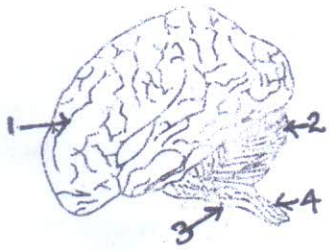


i) Label parts 2,3
ii) Give the function of part 1 and 4.
iii) Name the cells of part 5 that produce the male hormone.
iv) Why is structure 5 outside the body?
v) What is semen?

b) i) State Lamarcks theory of inheritance of acquired character. Explain 2 points [5]
ii) State Darwins theory of natural selection. Explain 2 points.
iii) Explain industrial melanism

Question 6. [4]

a)



i) Label parts 2,3
ii) Give the function of 1,4
iii) How is the arrangement of cells different in parts 1 and 4
iv) Name the 4 lobes of the brain.
v) What is the difference between sympathetic and parasympathetic nervous system.

b) With respect to plant hormones answer the following questions

1) give 1 effect of [6]
   i) ABA
   ii) gibberellins
   iii) cytokinins
   iv) ethylene

2) Why is ABA known as the stress hormone?
3) Why are gibberellins useful in horticulture?
4) What do you mean by parthenocarpy?
5) How is ethylene different from other hormones?

Question 7 [5]

a) For each of the following – Cro- magnon
   Australopithecus,
   Homo habilis,
   Homo erectus,
   Neanderthal man
   mention i) their height ii) their cranial capacity

b) Give 1 difference between [5]
   i) Lacrimal and Ceruminous gland
   ii) Turgor pressure/Wall pressure
   iii) Diastole/Systole
   iv) Myopia/ Hypermetropia (2 causes)
   v) Diabetes mellitus/ Diabetes insipidis (cause)