ST.FRANCIS GIRLS' SECONDARY SCHOOL
PRE – NATIONAL EXAMINATION
FORM FOUR
BIOLOGY I
19TH SEPTEMBER 2019

TIME: 3:00HOURS NAME _____

INSTRUCTIONS:-

1. This paper consists of section A,B and C
2. Answer all question in section A and B and 2 question from section C. question 13 is compulsory
3. Except for diagram that must be drawn in pencil all writing should be in blue or black ink pen.

SECTION A: (15 MARKS)

1. For each of the item i-x choose the correct answer from among the given alternative and write its letter beside the item number in answer sheet.

i. Mitosis normally take place in:-
A) Reproductive cell B) Animal cell only
C) Plant cell only D) Somatic cell E) Body cell

ii. The function of hydrochloric acid in food testing experiment is:-
A) To decolorize the food sample B) To oxidize the food sample
C) To test reducing sugar D) To neutralize sugar foods
E) To hydrolyise complex sugar to simple sugar

iii. Which of the following parts of the germinating seed is an embryonic shoot?
A) Hypocotly B) Radicle C) Plumule D) Cotyledon E) Endosperm

iv. Oxygen dept occur when:-
A) Too much Carbondioxide is present in the body
B) The rate of respiration exceeds that of photosynthesis C) Alcohol is formed in tissue
D) There is insufficient oxygen in the muscle tissue during strenuous exercise
E) There is insufficient lactic acid in muscles tissue

v. Hormones produced by pituitary gland which promote ovulation:-
A) Follicle stimulating hormone FSH and luteinizing hormone
B) Luteinizing and progesterone hormone C) Oestrogen and progesterone
D)Progesterone and Follicle stimulating hormone E) Prolactin and progesterone

vi. The offspring obtained by crossing red flower and white flower all were found to be pink. This is example of :-
A) Crossing over B) Mutation C) Codominance D)Natural selection
E) Incomplete dominance

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vii. Is a formation of the new species:-
A) Speciation B)Species C) Evolution D)Natural selection E) Artificial selection

viii. Medical waste is described as:-
A) Biohazardous B) Recyclable C) Reusable D) Biodegradable E)Non – Biodegradable

ix. A grasshopper ventilates its gaseous exchange surface by:-
A) Moving its rib cage B) Beating of cilia C) Rhythmic body movement
D)Opening of spiracle E) Opening of nostril

x. A dis – order associated with poor growth, reddish thin hair weakened immune system diarrhea and anemia is:-
A) Marcumus B) Kwashiorkor C) Cretinism D) Dwarfism E) Myxodema

2. Match the respond in List B with the phrases in List A by writing the letter of the correct response beside the item number.

List A	List B
i. A dieses transmitted by flea from rat to man	A. Cortex
ii. Outer zone of kidney	B. Medulla
iii. Transpiration	C. Cooling effect in hot condition
iv. Survival for the fittest	D. Cooling effect of the plant
v. Cotyledon remain underground	E. Plague
	F. Meningitis
	G. Darwin
	H. Lamarck
	I. Hypogeal
	J. Epigeal

SECTION B: (60 MARKS)
Answer all questions from this section

3.a) Give the meaning of the following biological term as they are used in Genetics
i. Sex – linked gene
ii. Sex – determination
iii. Sex – limited character

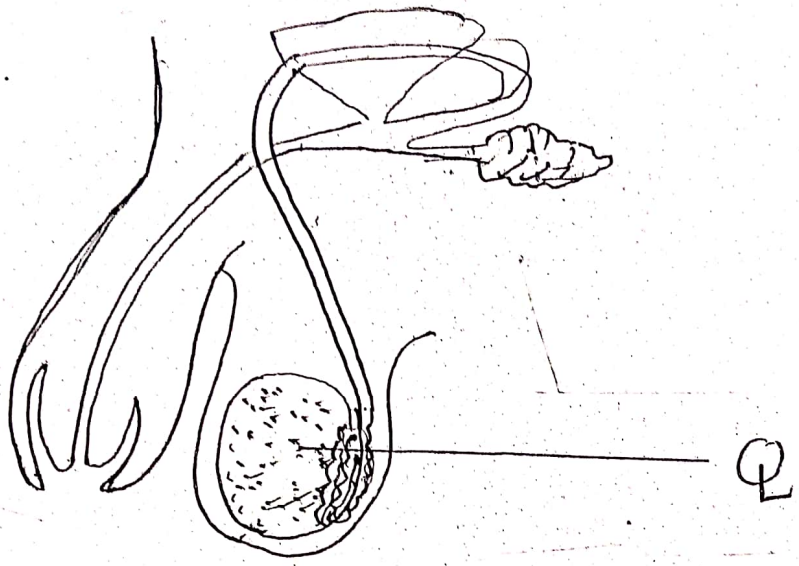
b) When a red and white flowered varieties of the four o'clock plant was crossed all the plant of the F1 generation produce pink flower.
i. Use a genetic diagram to show the genotype of F_1 and F_2 generation
ii. Define the type of dominance exhibited by offspring produced

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4. a) How could the body remove or destroy a bacterium that lands on:-
   i. Cornea
   ii. Bronchus
   iii. Stomach

b) Explain why it is not healthy to sleep in a:-
   i. Closed room with many potted plant
   ii. poorly ventilated room with a charcoal burned
   iii. Why is very important to breath through nose and not mouth? give reason

5. a) Give two (02) reason why zygote differ from other cell of body
study the diagram below and answer the questions



   i. State two (2) function of the part labeled Q
   ii. Draw a well labeled structure of the cell produced in part Q

b) State 4 adaptive features for that structure to its function

6.i) List down five kingdom into which organism are placed
ii) Define the term species
iii) List down 3 features of species

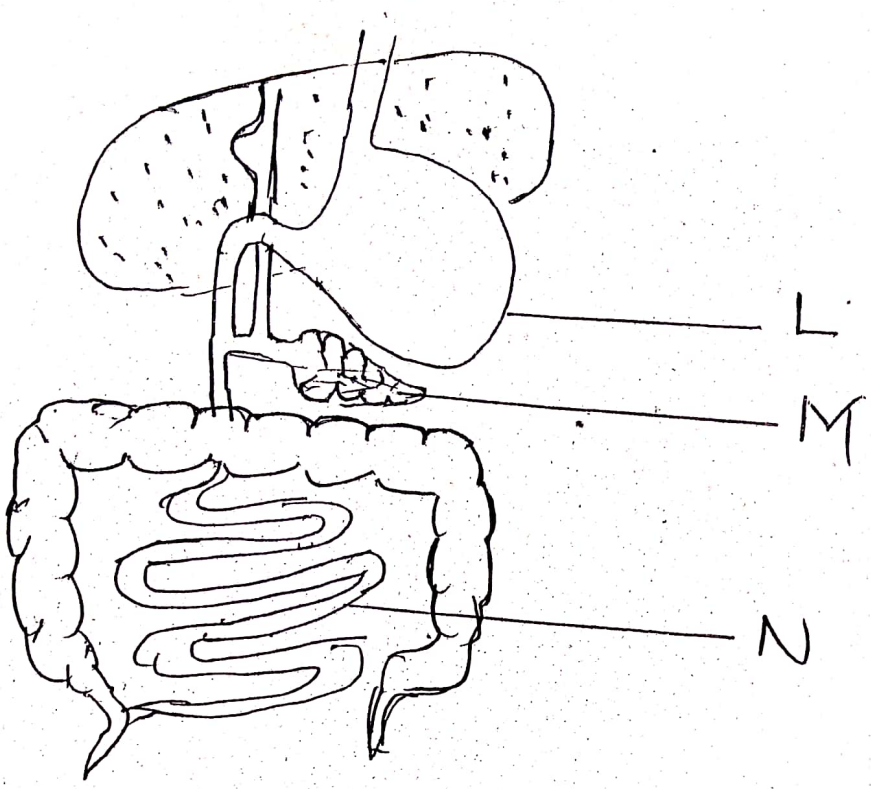
7. i) Define the term germination
ii) Briefly state 3 condition necessary for seed to germinate
iii) Define two types of seed germination
iv) State 3 causes of the seed dormancy

8. a) Draw a well labeled diagram of human brain
b) State the function of the following part.
   i. Cerebrum
   ii. Cerebellum
   iii. Medulla oblongata

c) State 02 structural difference between motor and sensory neurone

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9. Study the diagram below and answer the question



i. State one function of each component found in a juice produced in gland found in part L
ii. State or function of the two hormone produced by part labeled M
iii. Draw a well labeled structure of the part which have finger like projection found in part labeled N

10. a) Briefly explain 4 points on how biology related to other scientific field.
b) State 04 features which enable the pathogenic bacteria to its adaption

11. i)What is evolution?
ii) State 3 points of Lamarck theory of origin of species
iii) List down 5 points of Darwin
iv) List down 4 examples of vestigial structure

12.a) Define the following term.
i. Mitosis
ii. Meiosis

b) List down 3 significance of mitosis and meiosis
c) State down 2 advantage and 2 disadvantages of sexual reproduction

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SECTION C :(25 MARKS)

Answer 2 question from this section question 13 is compulsory

13. Write an essay on the causes, effects and prevention of drug abuse in our country. (4points per each part)
14. Briefly explain the mechanism of urine formation
15. Discuss the application of genetic in our daily life situation (5points)

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