



**THEMI HILL SECONDARY SCHOOL
COVID 19 HOLIDAY
FORM FOUR OPEN EXAMINATION
SERIES ONE**

033/1

BIOLOGY 1

TIME:3HRS

04

MAY,2020

INSTRUCTIONS:-

1. This paper consists of THREE (3) sections A, B and C
2. Answer ALL questions in section A, and B and choose only ONE (1) question from section C.
3. Good and well labeled diagrams are credited
4. All answers must be written in the answer sheet.

SECTION A (20 MARKS)

Answer all questions

1. For each the following item (i) – (x), choose the correct answer from alternatives given and write it's latter beside the item number in the answer booklet provided.
- (i) Amoeba moves by
 - A. Protruding pseudopodia
 - B. Using cilia
 - C. Using flagella
 - D. Flow of cytoplasm
 - E. Tails

 - (ii) Conductive tissue which conduct water and mineral salts from the roots to all part of the plant in called
 - A. Phloem
 - B. Xylem
 - C. Cambium
 - D. Root hairs
 - E. Pericycle

 - (iii) The following joint allow movement in one plane only
 - A. Ball and socket
 - B. Pivot joint
 - C. Hinge joint
 - D. Immovable joint
 - E. Movable joint

 - (iv) Which one of the following substances is more to be absent in a green leaf early in the morning before sunrise
 - A. Starch
 - B. Glucose
 - C. Protein
 - D. Fats
 - E. Lipids

 - (v) Which one is the viral disease
 - A. Tuberculosis
 - B. Tetanus
 - C. Measles
 - D. Malaria
 - E. Gonorrhoea

 - (vi) Which one of the following section does not play a digestion role in the alimentary canal
 - A. Lipase
 - B. Trypsin
 - C. Renin
 - D. Pepsin
 - E. Maltase

- (vii) On which date is a woman most likely to ovulate of the first day of menstrual loss was 1 February?
 A. 5 February
 B. 28 February and 5 March
 C. 14 February
 D. 1 March
- (viii) Which of the following parts of the human eye present entry of dust particles and sweat into the eye?
 A. Eyelid
 B. Eyebrows
 C. Eyelash
 D. Iris
 E. Conjunctive
- (ix) If the blood group of parents in AB and B, the possible groups of the children will be
 A. A and B
 B. A, B and AB
 C. B and O
 D. AB, B and O
 E. A and O
- (x) In which one of the following does the process of deamination occur
 A. Liver
 B. Kidney
 C. Pancreas
 D. Spleen
 E. Heart

2. Match the items in list A with their correct response in list B by writing the letter against the questions number

LIST A		LIST B
(i)	Transport of oxygen from the heart to the respiring cell.	A. Hepatic artery
(ii)	Carries deoxygenated blood from the body to the parts of the heart.	B. Aorta
(iii)	Circulatory system between the hearts and the lungs	C. Thrombocyte
(iv)	Receives oxygenated blood from the lungs	D. Semilunar valve
(v)	Involved in blood clotting	E. Tricuspid valve
(vi)	A valve which separates right ventricle and right	F. Systemic circulation
		G. Left ventricle
		H. Hepatic portal vein

auricle	I. Left auricle
(vii) Prevent back flow of blood from aorta	J. Leucocyte
(viii) Contains thick walls that pumps blood under high pressure to all parts of the body	K. Phagocyte
(ix) Protects the body by engulfing pathogens	L. Pulmonary circulation
(x) Blood vessel with blood rich in food nutrients	M. Bicuspid valve
	N. Vena cava

SECTION B (60 Marks)

Answer **all** questions in this section

All questions carry **8 marks** except question five and six which carry **6 marks** each.

3. (a) Outline four features which distinguish a Biology Laboratory from other school Facilities.
- (b) Outline four steps involved in using a microscope.
4. (a) State the conditions necessary for seed germination and briefly describe how they facilitate germination.
- (b) Differentiate epigeal germination from hypogeal germination.
5. (a) Describe the following ecological terms:
 - (i) Decomposers
 - (ii) Producers
 - (iii) Parasites
- (b) With example, briefly explain how comparative embryology supports the idea of organic evolution.
6. (a) Give the meaning of osmosis and diffusion.
- (b) Briefly explain how the following illustrate osmosis.

- (i) Shrinking of a cell when immersed in a high concentrated solution.
 - (ii) Bursting of red blood cell when immersed in dilute solution.
7. (a) Explain the meaning of the following:
- (i) Gene
 - (ii) Recessive
 - (iii) Phenotype.
- (b) The laboratory technician at Themis Hill Secondary School performed an experiment with the aim of proving the Mendelian experiment on single factor inheritance for a coat colour in mice. In the experiment, pure – breed (homozygous) black fur mouse (male) was mated with a pure- breed brown fur mouse (female). The gene for black for colour was dominant over the gene for brown fur colour.
Use crosses to show the possibilities of the results in the first filial generation.
8. (a) What is the meaning of the terms:
- (i) Digestion
 - (ii) Malnutrition
- (b) It has been a good day that your uncle who is a fisherman has caught a lot of fish. He sold some of them and gives some to his friends and neighbors. Some remained with him. What will you advice him to do so that the fish cannot go bad as there is no electricity in your uncle’s area? (Give any 2 methods).
9. (a) Define the term movement
(b) Mention any two importance’s of movement
(c) Mention three types of muscles
10. (a) What is breathing?
(b) Describe the human breathing process.
(c) Explain why it is better to breath through your nose than it is to breathe through your mouth.

SECTION C. (20 marks)

Answer **one** question only in this section.

11. Suppose you were invited to take part in a debate whose motion says “**Scientists should find a way of getting rid of all bacteria**”
Write an essay to give your views on this motion.
12. Write an essay on how the “skin, respiratory system and blood” provide a natural body defense against pathogens.

13. Write an essay on HIV/AIDS based on the followings

- Causes
- Transmission
- Symptoms
- Prevention
- Treatments.

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