**GATITU GIRLS SECONDARY**

Name......................................................................................................

REG No...............................

BIOLOGY

FORM 4

TUNE UP TERM 2 2018

1. Transpiration is a necessary evil. Explain (3mks)
2. State 2 ways in which root hairs are adapted to their functions (2mks)
3. State the adaptation of stomata in various plants in relation to transpiration (4mks)
4. State 3 adaptations of erythrocytes to their functions (3mks)
5. State 2 causes of histamine (2mks)
6. Define the following terms ; (5mks)
7. quarantine
8. community
9. ecological niche
10. gene loci

v) ecology

1. State the adaptive characteristics of ascaris (3mks)
2. State 3 characteristics of population (3mks)
3. Name the part of the brain that regulates breathing (1mk)
4. State the causative agents of the following diseases; (5mks)
5. Whooping cough
6. Pneumonia
7. Amoebic dysentery
8. Cholera
9. typhoid
10. State 2 characteristics of surfaces of gaseous exchange (2mks) 33
11. State 3 factors affecting the rate of breathing (3mks)
12. Sate 3 differences between single and double circulatory system(3mks)
13. State 3 differences between normal haemoglobin Hb A and defective haemoglobin Hb S (3mks)
14. What is ; (3mks) 45
15. Haemophilia
16. Albinism
17. Sickle cell anaemia
18. Haemophilia is a sex linked characteristic caused by a recessive gene carried on the X chromosome.

A carrier woman marries a normal man. Use letter H to represent the dominant gene.

(a) Work out the phenotypes of F1 generation. Muranga pp2 (5mks)

(b) What is the probability of the couple getting a haemophilic son? (1mk)

(c) Define the following terms as used in genetics.

(i) Allele. (1mk)

(ii) Genetic engineering. (1mk)

1. State 2 types of mutation (2mks)
2. State 2 sex linked genes controlled by the Y chromosomes (2mks)
3. State 4 characteristics of kingdom protoctista (4mks)
4. State 3 causes of variation (3mks) 64
5. Differentiate between continuous variation and discontinuous variation (2mks)
6. State 4 differences of class diplopoda and class chilopoda (4mks)