**GATITU MIXED SECONDARY SCHOOL**

**BIOLOGY FORM 4 OPENER TERM 2 2015 EXAM**

**ATTEMPT ALL THE QUESTIONS**

.1. Describe various evidence which support the theory of organic evolution. (20mks)

1. In a particular species of tropical beetles, the wings have either red or orange marks. A cross between red marked beetles with orange marked beetles produces off-springs with yellow marks only. When the F1 generation off-springs are selfed, they produce F2 generation in the ratio of 1 red: 2 yellow: 1 orange.
2. Explain the absence of red and orange marks in the F1 off-springs. *(1 mk)*
3. If the gene responsible for red marks is **R** while the gene responsible for orange marks is **O**, use a genetic cross to show how the F2 generation was obtained. *(4 mks)*
4. Give ***two*** examples of sex-linked traits in man. *(2 mks)*
5. What is non-disjunction? *(1 mk)*
6. What are vestigial structures? Give an example. [2 marks]
7. (a) State two types of variations in living organisms. (2mks)

(b) Haemophilia is a sex linked trait in man caused by recessive gene represented by h

 (i) Using a genetic cross, work out the genotypes of the offsprings from a marriage between haemophilic man and a carrier woman. (4mks)

 (ii) What is the probability that their son will be haemophilic (1mk)

 (iii) Give a reason why males are more haemophilic than females (1mk)

1. What is meant by hybrid vigour. (2mks)