**ST.MARIE EUGENIE GIRLS SECONDARY SCHOOL**

**FORM FOUR HOME PACKAGE**

**BIOLOGY**

**TIME \_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ MARCH 2020**

1. (a) Define;

 (i) Genetics

 (ii) Coordination

 (iii) Reproduction

 (b) Give five economic importance of conifers.

 (c) Account for the differences between Monocotyledonae and dicotyledonae

 (d) Mention six hormones which you know and state its function.

 (e) Give difference between DNA and RNA.

 (f) Mention Components of Nucleotide.



3. (a) (i) Explain why the removal of corpus luteum before three months cause miscarriage?

 (ii)Briefly explain the importance of Meiosis and Mitosis.

 (iii) Give differences between Meiosis and Mitosis.

 (b) Mention all methods of Family Planning.

 (c) Mention characteristics of insect pollination.

4. (a) Mention general and distinctive features of the kingdom animalia.

 (b) Mention the phyla of kingdom animalia.

 (c) Classify the following organism up to class level.

 (i) Tapeworm

 (ii) Cow

 (ii) Spider

 (iii) Bird

 (iv) Toad.

5. (a) Explain four ways through which organism can gain or loss heat.

 (b) State the components of nervous system.

 (c) Mention two functions of the spinal cord

6. ( a) Name types of girdles found in the skeletal system

 (b ) Describe three functions of limb girdles

 (c ) State the type of joint formed at the girdles.

7. Explain how mammals regulate their internal body temperature in response to external environment.

8. Describe four similarities and five differences between insect and wind pollinated flower.

9. (a) State the conditions necessary for seed germination.

 (b) Give the difference between Epigeal and Hypogeal seed germination.

10. State the chemicals and reagent which are used to identify the presence of the below mentioned food, substances and in each test show the expected result (observation) if the food is present.

|  |  |  |
| --- | --- | --- |
| Food substance | Chemical/reagent | Observations(Expected result) |
| Starch |  |  |
| Reducing Sugar |  |  |
| Non-reducing Sugar | Dil HCl, NaOH and Benedict’s solution | Colour of solution changes from blue to green to yellow and finally to brick red precipitate  |
| Protein |  |  |
| Lipids |  |  |

11. (a) What is the composition of mammalian blood?

 (b) Explain clearly the composition of human being blood

12. (a) Figure 7 shows the arrangement of tissues in a dicotyledonous plant.



(i) Name the parts labelled A, B, C, D, E and F.

(ii) State the functions of parts A, B, E and F.

 (iii) From which part of the plant body was the section taken? Give reasons.

13. (a) Give the difference between Test and Back cross.

 (b) A man heterozygote for brown iris marries a woman who has blue iris. Show the results of F1. What colour would the iris of the cross between 2 members of F1?

***THIS WORK SHOULD BE SUBMITED TO THE SUBJECT TEACHER; OPENING EXAMINATION WILL BE EXTRACTED FROM THESE QUESTIONS.***