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**MAASAI MARA UNIVERSITY**

**UNIVERSITY EXAMINATIONS 2016/2017**

**SECOND YEAR FIRST SEMESTER EXAMINATION**

**FOR**

**THE DEGREES OF BACHELOR OF EDUCATION (SCIENCE)**

**BOT 211: PLANT STRACTURE AND FUNCTION**

**DATE…………………………… TIME: 2 HOURS**

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**INSTRUCTIONS TO CANDIDATES**

1. **Select ANY TEN Questions (7 marks each)**
2. **Illustrate your answers with well labeled diagrams where appropriate**
3. Define the following terms as used in plant stracture and function
4. Sclereids
5. Fibres **(1 Mark)**
6. Metaxylem **(1 Mark)**
7. Protoxylem **(1 Mark)**
8. Collateral bundles **(1 Mark)**
9. amphivascular bundles **(1 Mark)**
10. bordered pit **(1 Mark)**
11. Highlight features and functions of parenchyma tissues. ` **(7 Marks)**
12. Describe various structures found on the surface of stems**. (7 Marks)**
13. Explain the differences between monocots and dicots. **(7 Marks)**
14. Briefly explain three reasons why plants need a great deal of water. **(7 Marks)**
15. (a) Define plastochron. (**1 Marks)**

(b) Name and explain how various leaf modifications help the plant (**6 Marks)**

1. (a) Differentiate between respiration and respiratory quotient. **(2 marks)**

(b) Highlight the significance of respiration. **(5 marks)**

1. Explain various external factors that affect the rate of respiration.

(**7 Marks)**

1. Describe the fate of pyruvic acid in the absence of oxygen in plants.

(**7 Marks)**

1. (a)What is placentation? **(1 mark)**

(b) With an aid of diagrams, describe six types of placentation found in angiosperm. **(6 marks)**

1. By stating enzymes involved, describe the formation of pyruvic acid from 3-glyceraldehyde phosphate in glycolysis. **( 7 marks)**
2. Outline the process of the light independent stage of photosynthesis **(7 Marks)**
3. Draw and label the structure of a fleshy fruit and indicate the function of each part. **(7 Marks)**
4. Describe the process of cyclic photophosphorylation. **(7 Marks)**
5. Explain various methods of breaking seed dormancy. **(7 marks)**