

FINAL EXAMINATION PAPER 2011/2012

- COURSE CODE : B202
- TITLE OF PAPER : PLANT MORPHOLOGY
- TIME ALLOWED : THREE (3) HOURS
- INSTRUCTIONS :
1. ANSWER ANY FOUR (4) QUESTIONS
  2. EACH QUESTION CARRIES 25 MARKS.
  3. ILLUSTRATE YOUR ANSWERS WITH LARGE AND CLEARLY LABELLED DIAGRAMS WHERE APPROPRIATE
- SPECIAL REQUIREMENTS : NONE

THIS PAPER IS NOT TO BE OPENED UNTIL PERMISSION HAS BEEN GRANTED BY THE INVIGILATOR(S).

**QUESTION 1.**

Describe and illustrate the morphology in the following fruits:-

- [a]. Strawberry (*Fragaria* spp.). [9 Marks]  
[b]. Figs (*Ficus* spp.). [8 Marks]  
[c]. Blackberry (*Rubus* spp.). [8 Marks]

[Total 25 Marks]

**QUESTION 2.**

- [i]. Describe the morphological options in Angiosperm germination. [15 Marks]  
[ii]. Describe the maize *Zea mays* seed as an example of a monocotyledonous seed.

[10 Marks]

[Total 25 Marks]

**QUESTION 3.**

Give appropriate botanical descriptions and draw floral diagrams for the following floral formulae:-

[a].  $K_{(5)} C_{(5)} A_{10} \underline{G}_{(10)Z}$  [8 Marks]

[b].  $K_6 C_{(6)} A_3 G_{(6)}$  [8 Marks]

[c].  $K_5 C_{10} A_{50} G_{(5)}$  [9 Marks]

[Total 25 Marks]

**QUESTION 4.**

The Angiosperm gynoecium has several possible morphological types. Give an illustrated description of the gynoecium types.

[25 Marks]

**QUESTION 5.**

- [a]. Give an account of branching patterns in higher plants. [10 Marks]  
[b]. Discuss "Phylotaxy in higher plants". [15 Marks]

[Total 25 Marks]

**QUESTION 6.**

The Angiosperm lifecycle has a sporophyte as well as a megagametophyte and a microgametophyte.

[a]. Describe microgametophyte development in Angiosperms. [10 Marks]

[b]. Discuss pollination vectors noting the role of morphology in their contribution to biodiversity. [15 Marks]

[Total 25 Marks]

[TOTAL MARKS: 100 ]