

Eastern University, Sri Lanka
Faculty of Agriculture
Third Year First Semester Examination
AB 3101 - Crop Improvement Technology
Repeat Examination
Practical Examination

Answer all questions

Time: 02 hours

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1. a) Identify and describe the vegetative reproductive parts displayed with clear diagrams.
b) Give the common and botanical names of the crops containing these parts.

 2. a) Describe the flowers with clearly labeled diagrams.
b) Give the common and botanical names of the crops having these flowers.
c) Name the kind of these flowers based on floral parts
d) Prepare a complete table to illustrate the kind of the flowers with remarks.

 3. a) Draw the breeding tools displayed and name them.
b) What are their uses in the crossing programme.
c) What is the purpose of sterilizing the breeding tools before they are being used?

 4. A brinjal (*Solanum melongena*) variety "M" with white fruit is to be crossed with another variety of brinjal "P" with purple fruit. Describe in details how the cross is being done in the breeding programme (Give all steps clearly)
- Note the following:
- a) Brinjal variety "M" is the female parent and the variety "P" is the male parent
 - b) Purple fruit colour is completely dominant over white
 - c) Both varieties come into flowering at the same time and continues flowering for 3 weeks

B) Answer the following questions

- i) When do you plant these two varieties in order to make successful crossing?
- ii) At what time of the day emasculation is carried out?
- iii) What is the best time to collect the flowers for pollination?
- iv) What type and condition of flowers are collected for pollination?
- v) What is the colour of fruit after crossing on the seed parent?
- vi) What is the colour of fruits of the F_1 plants?
- vii) What colour of fruits are expected on F_2 plants?
- viii) Why do you cover the emasculated flower bud with oil paper bag?