

Navrachana University
School of Liberal Studies and Education, B.Sc Program
End-Semester Examination November 2017
Third Year and Semester V
Horticulture and Plant breeding, BO302

Date: 24.11.17

Marks: 40

Time: 1:00 pm – 3:00 pm

Instructions:

- All the Questions are Compulsory
- Total Pages - 2
- Please read the questions carefully and answer accordingly
- Draw a neat and labeled diagram wherever necessary

Q. 1. Choose the correct answer from the given options:

(1x6=6)

1. What is the advantage of clonal selection
a) varieties developed are stable and easy to maintain b) hybrid vigour is easily utilized
c) only method to improve clonal crops d) all of these
2. Plants that are propagated asexually have genetic information from only one parent and are commonly called
a) hybrids b) cultivars c) clones d) saplings
3. Selection of homozygous plants is
a) mass selection b) pureline selection c) both a and b d) none of these
4. Breeding for disease resistance requires
a) Good source of resistance b) disease test
c) Planned hybridisation d) all of the above
5. What does the word "bonsai" mean?
a) Plant in a tray b) small tree c) miniature countryside d) dwarf plant
6. An ideal garden soil is
a) fertile b) well drained c) fairly high in organic matter d) all of these

Q. 1. (b) Answer in one sentence

(1x8 =8)

1. What is the most commonly used method of budding?
2. What is tissue culture?
3. What is allopolyploid?
4. Which is the simplest and oldest method found in plant breeding?

5. What is aneuploid?
6. Define plant breeding.
7. What is the progeny of Breeder, Foundation, or Registered seed handled to maintain satisfactory genetic purity and identity?
8. Give atleast one type of bonsai style.
9. Define viability seeds.
10. What do you understand by the term 'totipotency'?

Q. 2. Answer in brief (Any 5)

(2x5=10)

1. Give a step-by-step account of a grafting procedure
2. State what is meant by 'seed dormancy'.
3. What is a hybrid, and what are the three basic types of hybrids?
4. Give differences between cutting and grafting.
5. Give importance of hybridization.
6. What are the indicators of unsuccessful propagation?
7. What are the advantages of genetic engineering as compared to conventional plant-breeding techniques?

Q. 3. Write Short Notes on (Any 2):

(3x2=6)

1. Types of soil
2. Apomixis
3. Methods to overcome seed dormancy
4. Selection methods in plant breeding

Q.4. Answer in detail (Any 2)

(4x2=8)

1. Describe the ideal propagation environment for a plant.
2. What are the factors to be considered if you are asked to landscape a botanical garden?
3. How does polyploidy help in plant breeding

Q. 5. If you are to built a botanical garden in your university, which are the various propagation methods you will employ?

(2)

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