

**C 60083**

(Pages : 2)

Name.....

Reg. No.....

**SIXTH SEMESTER B.Sc. DEGREE EXAMINATION, MARCH 2019**

(CUCBCSS)

Botany

**BOT 6B 15—GENETICS AND CROP IMPROVEMENT**

Time : Three Hours

Maximum : 80 Marks

**Section A**

*Answer all questions.*

*Each question carries 1 mark.*

1. Expand IITA.
2. Name two varieties of rice developed by breeding technique.
3. What is inbreeding depression ?
4. Name a symbiotic nitrogen fixing organism.
5. What is oligogenic disease resistance ?
6. Name a parasitic weed.
7. Give two characteristics of salt affected soils.
8. Where is TBGRI located ?
9. Name the stress hormone in plants.
10. What are the symptoms of aluminium toxicity in plants ?

(10 × 1 = 10 marks)

**Section B**

*Answer all questions.*

*Each question carries 2 marks.*

11. Distinguish between backcrossing and inbreeding.
12. What are the major research activities of RRII ?
13. Give two methods of conservation of plant genetic resources.
14. What is clonal selection ?
15. What are quarantine measures ?
16. Describe the floral biology of Arecanut.

**Turn over**

17. State two problems encountered in breeding for drought resistance.
18. How is insect resistance acquired through cytoplasmic inheritance ?
19. How do plants tolerate chilling ?
20. Name two insects that attack plants and the mechanisms of infection.

(10 × 2 = 20 marks)

### Section C

*Answer any six questions.  
Each question carries 5 marks.*

21. Explain the genetics of photosynthesis.
22. Give an account on the exploration and documentation of plant genetic resources.
23. What is mutation breeding ? Explain with examples.
24. Write briefly on selection as a method of crop improvement.
25. How do parasitic weeds affect plants ? How can you breed plants for weed resistance ?
26. What is polyploidy breeding ? How is it used in crop improvement ?
27. Explain the role of IISc in plant research and development.
28. What is emasculation ? What are the methods adopted for emasculation ?

(6 × 5 = 30 marks)

### Section D

*Answer any two questions.  
Each question carries 10 marks.*

29. Write an essay on breeding of plants for disease resistance with examples.
30. What are biofertilizers ? With examples, explain its uses in crop improvement.
31. What is heat stress ? Explain the sources and genetics of heat tolerance in plants.

(2 × 10 = 20 marks)