C 60077   (Pages : 2)   Name..............................

Reg. No..................................

SIXTH SEMESTER B.Sc. DEGREE EXAMINATION, MARCH 2019

(CUCBCSS)

Botany

BOT 6B 09—GENETICS AND PLANT BREEDING

Time : Three Hours   Maximum : 80 Marks

Section A

*Answer **all** questions.*
Each question carries 1 mark.

1. What is heterosis ?

2. Define plant breeding.

3. What is holandric gene ?

4. Give an example for complementary gene interaction.

5. What is linkage ?

6. Name a disease caused due to trisomy of sex chromosome.

7. What is test cross ?

8. Give an example for an improved variety produced by Mutation breeding.

9. What are clones ?

10. Give the ratio of recessive epistasis.

$(10 \times 1 = 10$ marks)

Section B

*Answer **all** questions.*
Each question carries 2 marks.

11. What is polygenic inheritance ?

12. Name the Government agencies involved in plant introduction process in India.

13. What is self sterility ?

14. State law of purity of gametes.

15. What is meant by chromosome mapping ?

16. Differentiate between sex chromosomes and autosomes.

Turn over

17. What is criss-cross inheritance ?

18. Define hybridisation.

19. What are lethal genes ?

20. Give two examples for transgenic plants.

(10 × 2 = 20 marks)

Section C

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

21. Explain XX-XO mechanism of sex determination.

22. What is mass selection ? What are its advantages ?

23. Explain co-dominance with an example.

24. How is sickle cell anaemia inherited ?

25. Write a note on mutation breeding.

26. Explain comb pattern inheritance in poultry.

27. Write a note on plant introduction.

28. What are the objectives of plant breeding ?

(6 × 5 = 30 marks)

Section D

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

29. Give an account on extra nuclear inheritance with a suitable example.

30. Explain multiple gene inheritance with ABO blood group in man as an example.

31. What is the significance of polyploidy in plant breeding ? Explain with suitable example.

(2 × 10 = 20 marks)