

**B. Sc. DEGREE END SEMESTER EXAMINATION OCT. 2020: JANUARY 2021****SEMESTER –5: BOTANY (CORE COURSE)****COURSE: 15U5CRBOT07: GENETICS AND PLANT BREEDING**

*(Common for Regular 2018 admission & Improvement 2017 /Supplementary 2017/ 2016/2015 admission)*

Time: Three Hours

Max. Marks: 60

**PART A****I. Answer ALL questions; each question carries 1 mark.**

1. What is linkage group?
2. Give two examples for X-linked inheritance?
3. What is meant by back cross?
4. Which is the selection method most suitable for self pollinated crops?
5. Name a disease caused due to trisomy of sex chromosome
6. What is hybrid vigour?
7. Give the ratio of recessive epistasis.
8. Give an example for complementary gene interaction (1 x 8 = 8)

**PART B****II. Answer ANY SIX questions; each question carries 2 marks.**

9. What is meant by chromosome mapping?
10. State Hardy- Weinberg law.
11. What is dihybrid cross? Give the law of Mendel which is derived from it?
12. Write short note on emasculation
13. Describe briefly Down's syndrome
14. What is clonal selection? What are its advantages?
15. Write a short note on reciprocal cross.
16. What is genetic drift?
17. Why did Mendel use pea plant as experimental material?
18. Define crossing over? What is its significance (2 x 6 = 12)

**PART C****III. Answer ANY FOUR questions; each question carries 4 marks.**

19. Write a note on extra nuclear inheritance.
20. Explain multiple alleles with a suitable example.
21. Write a note on polyploidy in plant breeding.
22. Explain the pattern of inheritance in haemophilia.
23. With suitable example explain Complementary gene interaction
24. Explain comb pattern inheritance in poultry. (4 x 4 = 16)

**PART D**

**IV. Answer ANY TWO questions; each question carries 12 marks.**

25. With the help of Suitable example explain polygenic inheritance.

**OR**

26. Explain the different mechanisms of sex determination with examples.

27. What is the significance of mutation in plant breeding? Explain with suitable example.

**OR**

28. Give a detailed account on plant Introduction

(12 x 2 = 24)

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