Reg. No…….. Name…… **19U531**

B. Sc. DEGREE END SEMESTER EXAMINATION - OCTOBER 2019

SEMESTER **–5: BOTANY (CORE COURSE)**

COURSE: **15U5CRBOT07: GENETICS AND PLANT BREEDING**

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

Time: Three Hours Max. Marks: 60

PART A

I. Answer ALL questions; each question carries 1 mark.

1. What is an 'allele'?
2. Define coefficient of coincidence.
3. What you mean by incomplete dominance?
4. What is Emasculation?
5. Define Centimorgan.
6. What is Pleiotropism?
7. What is Apomixis?
8. What is Non-disjunction? (1 x 8 = 8)

PART B

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

9. What is a test cross? How it differs from back cross?
10. Discuss steps in plant introduction.
11. Illustrate the causes in the success of Mendel's experiment.
12. What are holandric genes? How they are inherited?
13. What are GM crops?
14. What are the major objectives of plant breeding?
15. Explain co-dominance.
16. Why the law of segregation is known as "purity of gametes"?
17. Describe Darlington's theory of crossing over.
18. Define Hardy-Weinberg law? (2 x 6 = 12)

PART C

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

19. Write note on Quarantine regulation.
20. Explain genic balance theory of sex determination in *Drosophila*.
21. What is Law of segregation? Cite it with a dihybrid cross.
22. Explain the genetics of Haemophilia in man.
23. What is the cytological basis of crossing over?
24. Explain the reasons for continuous variation with Kernel colour in Wheat.

(4 x 4 = 16)

PART D

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

25. Give an account on chromosomal basis of sex determination with a suitable example.

OR

26. Explain how the ratio 9:3:3:1 is obtained in the inheritance of Comb pattern in domestic fowls.
27. Write an essay on mutation breeding for disease resistance.

OR

28. Write an account on crossing over and linkage maps.

(12 x 2 = 24)

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