

D 43550

(Pages : 2)

Name.....

Reg. No.....

SECOND SEMESTER M.Sc. DEGREE EXAMINATION, JUNE 2018

(CUCSS)

Botany

BO 02CT 06 – CYTOGENETICS, GENETICS, BIostatISTICS, PLANT BREEDING
AND EVOLUTION

(2010 Admissions)

Time : Three Hours

Maximum : 36 Weightage

I. Answer *all* the questions briefly :

1. What is meant by translocation heterozygote? How can it be detected cytologically?
2. Distinguish between Monosomy and Trisomy.
3. Write a note on B- chromosomes.
4. What are IS elements?
5. Write a brief note on linkage maps.
6. What is QTL mapping?
7. What is meant by degree of freedom?
8. What is mode? How can it be calculated in an individual series?
9. Explain RBD.
10. What is inbreeding depression?
11. Comment on *in situ* conservation.
12. Write an account on recapitulation theory.
13. What are gene trees?
14. Explain germ plasm theory.

(14 × 1 = 14 weightage)

II. Answer any *seven* questions in not more than 100 words each :

15. Explain the structure of polytene chromosome. Add a note on the cytological importance.
16. Write an account on P elements and hybrid dysgenesis in *Drosophila*.
17. Explain chloroplast genome and their utility.
18. State Hardy-Weinberg law and explain the factors affecting equilibrium.

Turn over

19. Discuss correlation and regression analysis.
20. Explain various methods of data collection. Give an account on different types of data.
21. Describe addition rule and multiplication rule of probability.
22. What are the objectives of plant breeding?
23. Write an account on the biochemical evidences of evolution.
24. How molecules are considered as "documents of evolutionary history"?

(7 × 2 = 14 weightage)

III. Answer any two questions in 300 words each :

25. Explain euploidy and aneuploidy and their role in evolution.
26. What is karyotype? Explain with reference to humans and comment on the genetic disorders in humans.
27. Write a detailed account on diagrammatic and graphic representation of data.
28. Explain mutation breeding with emphasis on methodology, merits and demerits and the achievements in India.

(2 × 4 = 8 weightage)