SECOND SEMESTER M.Sc. DEGREE (CUCSS) EXAMINATION JUNE 2014

Botany

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

Time : Three Hours   Maximum : 36 Weightage

I. Answer *all* the questions briefly :

1. Explain Euploidy.

2. What are giant chromosomes?

3. What is tetrad analysis?

4. Write an account on polygenic inheritance.

5. What are the uses of MINITAB?

6. Explain Standard Deviation.

7. Describe *ex situ* conservation.

8. What is composite transposon?

9. Write a short note on farmers right act.

10. Explain inbreeding depression.

11. What are the uses of trisomics?

12. Write a short account on coefficient of variation.

13. Write note on cryopreservation.

14. Explain type I and type II errors.

(14 × 1 = 14 weightage)

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

15. Explain Ac, DS and Mu elements in maize.

16. Write a note on chloroplast genome and its utility.

17. Write an account on mitochondrial genome.

18. Describe the factors affecting population equilibrium.

19. Differentiate between CRD and RBD.

Turn over

20. Give a note on Heterosis.

21. Describe the significance of polyploidy breeding.

22. Describe reproductive isolation.

23. Differentiate between Correlation and Regression.

24. Describe the modern concept of gene.

III. Answer any *two* questions in 300 words each :

25. Describe the role of molecular markers in the evaluation of transgenic plants.

26. Explain ANOVA and its uses.

27. Describe multigenic families and their evolution.

28. Describe the mobile genetic elements in plants and its significance in development evolution.

$(2 \times 4 = 8$ weigh