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Name.....

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Reg. No.....

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

Botany

BO O2CT 05 – CELL BIOLOGY, MOLECULAR BIOLOGY AND BIOPHYSICS

(2010 Admissions)

Three Hours

Maximum : 36 Weightage

I. Answer all the *fourteen* questions very briefly :

1. What is a satellite DNA?
2. What is the significance of G_0 ?
3. Mention the role of plasmodesmata.
4. Define programmed cell death.
5. Define C-value paradox.
6. Differentiate Enhancers and Silencers.
7. Distinguish Introns from Exons.
8. What is the significance of telomerase?
9. What are antimutator genes?
10. Define Buffer.
11. Distinguish between Colorimeter and Spectrophotometer.
12. List the applications of autoradiography.
13. What is the function of SDS in SDS-PAGE?
14. Name any *two* enzymes used in ELISA.

(14 × 1 = 14 weightage)

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

15. What are the features of heterochromatin?
16. How is cell cycle regulated?
17. Discuss the meiotic defects leading to human diseases.
18. Discuss the genetic basis of malignant cancer.
19. Name the enzymes associated with replication and mention their functions.

Turn over

20. Discuss post-translational modification of protein.
21. How are mutations induced?
22. Illustrate operon model.
23. What is the basic principle of Gas chromatography?
24. Illustrate the structure of IgG.

(7 × 2 = 14 weight)

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

25. Describe different phases of cell cycle.
26. Describe the regulation of gene expression in eukaryotes.
27. Discuss the molecular mechanism of mutation.
28. Explain the theory, types and applications of centrifugation.

(2 × 4 = 8 weight)