

15P229

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Name.....

Reg. No.....

SECOND SEMESTER M.Sc. DEGREE EXAMINATION, JULY 2016

(CUCSS)

(Botany)

CC 15P BO2 C05 - CELL BIOLOGY, MOLECULAR BIOLOGY, BIOPHYSICS

(2015Admission)

Time: Three Hours

Maximum: 36 Weightage

I. Answer *all* the **14** questions very briefly

1. What is lyophilization?
2. Give a short account on PAGE.
3. Give Henderson- Hasselbatch equation.
4. What is molecular phylogenetics?
5. What is a thymine dimer?
6. What are chaperons?
7. Define primosome.
8. What are enhancers?
9. Define c-value paradox.
10. What is satellite DNA?
11. What are mutagens?
12. Give a short account on cell adhesion.
13. Give any two meiotic defects in human.
14. What are mitotic inducers?

(14 x 1 = 14 Weightage)

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

15. Give an account on chromosome banding and its significance.
16. How is mitotic cell cycle regulated? Give its significance.
17. Give an account on cell signaling and its significance in biological systems.
18. Give a comparative account on oncogenes and tumor suppressor genes.

19. Write a comparative account on different forms of DNA.
20. Explain DNA repairing mechanisms.
21. What is an Operon? Give an account on gene regulation.
22. Give a comparative account on calorimeter and spectrophotometer.
23. Explain the functions of pH and buffers in biological systems.
24. Write a brief account on various types of chromatography.

(7 x 2 = 14 Weightage)

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

25. Explain the process and Enzymology of DNA replication in prokaryotes.
26. Give a detailed account on major steps in transcription and post transcriptional modifications.
27. Describe the organization of Eukaryotic chromosome.
28. Explain various radiobiological methods and their applications in Biological research.

(4 x 2 = 8 Weightage)
