16P229 (Pages: 2) Name.....................

Reg. No...................

SECOND SEMESTER M.Sc. DEGREE EXAMINATION, MAY-2017

(Regular/Supplementary/Improvement)

(CUCSS - PG)

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

(Botany)

(2015 Admission Onwards)

Time: Three Hours   Maximum: 36 Weightage

I.   Answer *all* the 14 questions very briefly

1. What is repetitive DNA?

2. Give the significance of G0 in cell cycle.

3. Give an account on synaptonemal complex.

4. What is cellular differentiation?

5. What are tumor suppressor genes?

6. What is Ion Exchange chromatography?

7. Give Beer- Lambert's law.

8. What is autoradiography?

9. Give the structure of IgG.

10. What is the significance of Cryobiology?

11. What are silencers?

12. Give a short account on physical mutagens.

13. What is telomerase?

14. What are topoisomerases?

(14 x 1 = 14 Weightage)

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

15. Give an account on different forms of DNA.

16. Explain the enzymology of DNA replication.

17. Give an account on regulation of gene expression in prokaryotes.

18. What is molecular evolution. Give the applications of molecular phylogenetics.

19. What is immunochemical assay? Give a brief account on ELISA.

20. Explain the principles of Electrophoresis. Briefly explain PAGE.

21. Give an account of various radiobiological methods and their applications.

22. Give an account on chromatin organization.

23. Explain the significance of control of cell cycle.

24. Write a brief account on molecular mechanism of cellular differentiation.

$$(7 \times 2 = 14 \text{ Weightage})$$

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

25. Explain the major events in prokaryotic translation. What are the major post translational events?

26. Give a detailed account on major DNA repairing mechanisms.

27. Describe the principles, types and applications of Chromatography.

28. Explain different meiotic defects and human diseases.

$$(4 \times 2 = 8 \text{ Weightage})$$

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