TB145120A   Reg. No............................

                                                Name............................

B. Sc. DEGREE (C.B.C.S.S.) EXAMINATION, OCTOBER 2016
SEMESTER V - CORE COURSE BOTANY
BOT5CME - CELL & MOLECULAR BIOLOGY AND EVOLUTION

Time: Three Hours   **Maximum Marks: 60**

PART A

I.   Answer all questions. Each question carries 1 mark.

1.   Who discovered cells.
2.   Define acrocentric chromosomes.
3.   Which cell organelle is popularly called as suicide bags of the cell?
4.   What are oncogenes?
5.   What is unit membrane concept?
6.   What is Kornberg enzyme?
7.   What is Sewall Wright effect?
8.   Define speciation.

                                                            (8x1 = 8)

PART B

II.   Answer any six questions. Each question carries 2 marks.

9.   What is cell theory?
10. Write a note on microbodies.
11. Write an account of Karyotype and Idiogram.
12. Give an account on various phases of cell cycle.
13. Write a note on Transition.
14. Write a note on tumour suppressor genes.
15. Differentiate nucleosides from nucleotides.
16. What are Pribnow box and Hogness box?
17. Explain Weisman's Germplasm theory.
18. What is retrogressive evolution? Write an example.

                                                            (6x2 = 12)

PART C

III. Answer any four questions. Each question carries 4 marks.

19. Distinguish mitosis from meiosis.
20. Explain the structure and function of mitochondria.
21. Give an account on salivary gland chromosomes.
22. What is Meselson-Stahl experiment? Explain.
23. Define isolation. Explain reproductive isolation.
24. Briefly explain Lamark's use and disuse theory of evolution.

                                                            (4x4 =16)

PART D

IV. Answer any two questions. Each question carries 12 marks.

25. Briefly explain various structural and numerical aberrations in chromosomes.
26. Describe a detailed structure and function of nucleus.
27. Briefly explain gene regulation in Prokaryotes.
28. Give a detailed account on Hugo de Vries Mutation theory of evolution.

(2x12=24)