B.Sc. DEGREE END SEMESTER EXAMINATION OCTOBER/NOVEMBER 2018

SEMESTER –5: BOTANY (CORE COURSE)

COURSE: **15U5CRBOT08: CELL MOLECULAR BIOLOGY AND EVOLUTION**

(Common for Regular 2016 admission & Supplementary 2015 admission)

Time: Three Hours   Max. Marks: 60

PART A

I.   *Answer **ALL** questions; each question carries **1** mark.*

1.   What is meant by endomitosis?
2.   What is meant by chromosomal bridge?
3.   What are stem cells?
4.   What is anticodon?
5.   At what locations in a eukaryotic cell does protein synthesis occur?
6.   What is Lamarckism?
7.   Why are lysosomes known as "the cleaners" of cell waste?
8.   Distinguish between transition and transversion.   (1 x 8 = 8)

PART B

II.   *Answer **ANY SIX** questions; each question carries **2** marks*

9.   Write note on ribosomes.
10. What is meant by cell cycle?
11. Describe the structure of tRNA
12. What are oncogenes?
13. What are nucleosomes?
14. Differentiate aneuploidy and euploidy.
15. What is point mutation?
16. Draw the general structure of a nucleotide
17. What is attenuation?
18. What are the unique features of lamp brush chromosomes?   (2 x 6 = 12)

PART C

III.   *Answer **ANY FOUR** questions; each question carries **4** marks.*

19. Describe the structure and function of nucleolus.
20. Explain mRNA processing.
21. Explain different mechanism of reproductive isolation
22. What is meant by genetic code? Enumerate the characteristic features of genetic code.
23. What is interphase? What are the three stages of interphase?
24. What are point mutations? Give examples.   (4 x 4 = 16)

PART D

IV. *Answer **ANY TWO** questions; each question carries **12** marks.*

25. Explain the sources and applications of stem cells

<div align="center">**OR**</div>

26. Describe the various phases of first meiotic division with diagrams

27. Explain the different structural aberrations found in chromosomes and how it affect the behaviour of chromosome during cell division?

<div align="center">**OR**</div>

28. Describe the major theories of evolution.   (12 x 2 = 24)

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