

**B. Sc. DEGREE END SEMESTER EXAMINATION - OCTOBER 2019****SEMESTER –5: ZOOLOGY (CORE COURSE)****COURSE: 15U5CRZOO05: CELL BIOLOGY AND MOLECULAR BIOLOGY**

(Common for Regular 2017 admission & Improvement 2016/ Supplementary 2016 /2015 admission)

Time: Three Hours

Max. Marks: 60

*Instructions:*

1. Time allotted for the examination is 3 Hours

2. Answer **all** questions in part A. Answer **any 6** questions from part B, **any 4** from part C and **any 2** from part D.

**PART A**

1. What are Prions?
2. Give the central dogma of molecular biology.
3. What is recon?
4. What are exons?
5. What is centromere?
6. What are pseudogenes?
7. Give the function of Primase.
8. What is endomitosis? (1 x 8 = 8)

**PART B**

9. Distinguish between B – DNA and Z-DNA
10. What is GERL concept?
11. Comment on *Zonulae Occludens*
12. Define one gene – one enzyme hypothesis.
13. What are the functions of cyclic AMP?
14. Give four functions of Sarcoplasmic reticulum.
15. What do you mean by cell recognition?
16. What is symbiont hypothesis? (2 x 6 = 12)

**PART C**

17. Give a detailed account on the functions of plasma membrane.
18. Explain the structure of tRNA
19. Describe the structure and function of mitochondria
20. Give an account on polymorphism in lysosomes
21. Enumerate the characteristics of genetic code.
22. Describe the various methods of transposition. (4 x 4 = 16)

**PART D**

23. Describe the experimental evidences to prove that DNA is the genetic material.
24. Give an account of the sequence of mitotic events with the help of suitable labeled diagrams.
25. Explain the structure and functions of interphase nucleus
26. Define Operon concept. Explain the mechanism of gene expression of prokaryotes using *lac operon* as an example (12 x 2 = 24)