

B.Sc. DEGREE END SEMESTER EXAMINATION OCT. 2020: JANUARY 2021**SEMESTER – 5: ZOOLOGY (CORE COURSE)****COURSE: 15U5CRZOO05: CELL BIOLOGY AND MOLECULAR BIOLOGY**

(Common for Regular 2018 admission and Improvement 2017/ Supplementary 2017/2016/2015 admissions)

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 cell theory?
4. What are desmosomes?
5. Define Osmosis.
6. What are Mycoplasmas?
7. Give two characteristics of genetic code.
8. Symbiont hypothesis (1 x 8 = 8)

PART B

9. Distinguish between Heterochromatin and Euchromatin.
10. What are Microtubules?
11. What is Reverse transcription??
12. Define Endomitosis.
13. What are Cistrons?
14. What are Pseudogenes?
15. What are the Roles of cyclic AMP?
16. Draw a diagram of nuclear pore complex and label its parts. (2 x 6 = 12)

PART C

17. Write an account on the types of Endoplasmic reticulum. Discuss their functions.
18. Explain the structure and functions of Interphase nucleus.
19. Compare Stimulon and modulon
20. Define operon. Explain Lac operon
21. Describe the structure and composition of Prokaryotic and Eukaryotic Ribosome.?
22. Explain contributions of Hargobind Khorana. (4 x 4 = 16)

PART D

23. Give an account on the mechanism of Protein synthesis in Eukaryotes.
24. Brief account of Eukaryotic gene regulation.
25. Explain polymorphism in lysosomes.
26. Explain the structure and function of Mitochondria. (12 x 2 = 24)