

U.G. 3rd Semester Examination-2020

ZOOLOGY

[PROGRAMME]

Course Code : ZOOP-CC-T-03

Full Marks : 40

Time : 2½ Hours

The figures in the right-hand margin indicate marks.

Candidates are required to give their answers in their own words as far as practicable.

1. Answer any **five** questions: 2×5=10
- a) Write the sex in humans and Drosophila with XXY chromosome.
 - b) Name two extinct hominids.
 - c) Write one sex-linked and one sex-influenced character in humans.
 - d) Write the difference between species and specimen.
 - e) What is GERL?
 - f) What is a Tautomeric shift in mutation?
 - g) What is criss-cross inheritance? Give one example.
 - h) What is polysome?

2. Answer any **two** questions. 5×2=10
- a) What is Nucleosome? Draw and describe the structure of the Nucleosome. 1+2+2=5
 - b) Describe the structure and function of the Golgi apparatus. 5
 - c) Describe the role of cdk_s and Cyclins in cell cycle regulation. 5
 - d) Write a short note on Geological Time Scale and highlighting the major events. 5
3. Answer any **two** questions: 10×2=20
- a) Describe Fluid Mosaic Model of plasma membrane. What are active and passive transport? Write the importance of cell junctions. 5+2+3=10
 - b) Describe the mechanism of sex determination in Drosophila. What are sex-linked and sex-influenced inheritance? 7+3=10
 - c) Describe the Electron Transport System in mitochondria. What is mtDNA? 8+2=10
 - d) Write a short note on (any **four**) 2½×4=10
 - i) G-protein coupled receptor
 - ii) Heterozygous superiority
 - iii) Biological species concept
 - iv) Importance of linkage and crossing over
 - v) Survival of the fittest.