

U.G. 4th Semester Examination - 2022

ZOOLOGY

[PROGRAMME]

Course Code : ZOOL-G-CC-T-04

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
- In a DNA sample if there is 30% adenine, what will be the percentage of other nitrogenous bases?
 - How many ATP molecules are produced during the glycolysis of one molecule of glucose?
 - Write down the difference between DNA and RNA.
 - State the functions of Sertoli cells.
 - What are mitral valve and tricuspid valve?
 - What is carboxyhemoglobin?
 - What are mineralocorticoids and sex steroids?
 - What is countercurrent multiplier?

2. Answer any **two** questions: 5×2=10
- What is zwitterion? Write down the zwitterionic structure of glutamate and lysine at their isoelectric points. 1+2+2
 - Define exoenzyme with example. Discuss the induced fit model of enzyme substrate interaction. 2+3
 - Write a note on conduction of cardiac impulse. 5
 - Describe the physiological functions of thyroid hormones. 5
3. Answer any **two** questions: 10×2=20
- What are the different components of pyruvate dehydrogenase complex? Describe in detail the process of citric acid cycle. What do you mean by lactic acid fermentation? 2+7+1
 - State the name of main forces that stabilize the structure of proteins. Describe secondary and tertiary structure of proteins. Chiral center is absent in glycine – explain. 2+6+2
 - Discuss the digestion of lipid in small intestine. Describe different types of salivary gland in human. With proper diagram describe the histology of salivary gland. 3+3+4

- d) Describe the different types protein components found in the thin filament of skeletal muscle. How oxygen is transported in blood through oxyhaemoglobin? 5+5
