

FIRST SEMESTER B.Sc. FYUGP EXAMINATION NOVEMBER 2025**(Regular/Improvement/Supplementary)****ZOOLOGY****MAJOR****ZOO1CJ101: AN OVERVIEW OF HUMAN PHYSIOLOGY: LIFE SUSTAINING SYSTEMS****Time : 2 Hrs.****Maximum Marks : 70**

M: Mark BL - Bloom's Taxonomy Level (1 to 6) CO - Course Outcome

| Section A: Answer all questions. Each carries 3 marks. | | | | |
|---|--|----------|-----------|------------|
| Ceiling: 24 Marks | | | | |
| No. | Question | M | BL | CO |
| 1. | Illustrate the process by which O ₂ and CO ₂ is transported in the blood by hemoglobin. | 3 | 3 | CO2 |
| 2. | State the impact of high altitude on hemoglobin's oxygen affinity. | 3 | 4 | CO2 |
| 3. | Mention the significance of the coagulation cascade in preventing blood loss. | 3 | 5 | CO3 |
| 4. | What is apheresis, and what are its primary applications? | 3 | 1 | CO3 |
| 5. | Design a flowchart that shows the pathway of electrical conduction in the heart. | 3 | 6 | CO3 |
| 6. | Describe the function of sensory neurons, motor neurons, and interneurons. | 3 | 2 | CO4 |
| 7. | Illustrate the structure of neuron and how it relates to their function. | 3 | 4 | CO4 |
| 8. | Integrate knowledge of GI hormones to explain how the body controls gastric emptying. | 3 | 6 | CO1 |
| 9. | Analyze the impact of decreased renin release on blood pressure regulation. | 3 | 4 | CO6 |
| 10. | Why the body use the ornithine cycle rather than excreting ammonia directly? | 3 | 5 | CO6 |
| Section B: Answer all questions. Each carries 6 marks. | | | | |
| Ceiling: 36 Marks | | | | |
| No. | Question | M | BL | CO |
| 11. | Discuss intracellular, local, and extrinsic physiological regulations. | 6 | 2 | CO1 CO6 |
| 12. | Explain how the immune system functions during an infection. | 6 | 3 | CO1 |
| 13. | Judge the role of nervous control in maintaining normal respiratory function under stress. | 6 | 5 | CO2 |
| 14. | Compare and contrast hypertension and hypotension. | 6 | 4 | CO3 |
| 15. | Explain the role of neurotransmitters in synaptic transmission. | 6 | 2 | CO4 |
| 16. | Summarize the role of actin and myosin in the sliding filament mechanism. | 6 | 2 | CO1 CO4 |
| 17. | To what extent does the psychological impact of sports on physical health contribute to overall well-being? | 6 | 5 | CO1 CO4 |
| 18. | Evaluate the role of the counter-current mechanism in preventing water loss and maintaining electrolyte balance. | 6 | 4 | CO6 |
| Section C: Answer any one question. Each carries 10 marks. (1 x 10 = 10 marks) | | | | |
| No. | Question | M | BL | CO |
| 19. | Illustrate the biochemical pathway of blood coagulation. | 10 | 3 | CO3 |
| 20. | List and discuss the common nutritional disorders affecting the gastrointestinal system, including cachexia, bulimia nervosa, anorexia nervosa, obesity, and flatulence. | 10 | 2 | CO1 |