

Total Pages : 8

AC-234276

**M.Sc. (Semester-III)
Examination, Dec.-Jan. (2025-26)**

ZOOLOGY

(Comparative Animal Physiology)

Time Allowed : Three Hours

Maximum Marks : 70

Note : This question paper is divided into four sections. All sections are compulsory. Attempt questions as per instructions given in each section.

SECTION-A

(Objective Type Questions)

Note : Answer any ten of the following questions. Each question carries 1 mark. [10×1=10]

AC-234276/560

(1)

[P.T.O.]



1. (i) Regulation of heart beat in mammals is due to :

- (a) Presence of excess oxygen in blood
- (b) Presence of pacemaker in the heart
- (c) Presence of thyroxin in blood
- (d) Volume of blood in the system

(ii) Sphygmomanometer measures :

- (a) Heart beat rate
- (b) Pulse rate
- (c) Blood pressure
- (d) All of these

(iii) Physiology of blood circulation was first described by :

- (a) William Harvey
- (b) Karl Landsteiner
- (c) Andreas Vesalius
- (d) Carl Correns

AC-234276/560

(2)

(iv) Tricuspid valve is present between :

- (a) Right atrium and ventricle
- (b) The two atria
- (c) The two ventricles
- (d) Left atrium and ventricle

(v) Excretory product of insect is :

- (a) Uric Acid
- (b) Urea
- (c) Ammonia
- (d) Guanine

(vi) Birds are :

- (a) Uricotelic
- (b) Ureotelic
- (c) Ammonotelic
- (d) Aminotelic

AC-234276/560

(3)

[P.T.O.]



- (vii) Stenohaline organisms are tolerant of salinity.
- (viii) Uricotelic animals are those in which the main nitrogenous waste product is
- (ix) Rhodopsin become active in dim light and is resynthesized from opsin with the help of vitamin A.
- (x) In the vertebrates the hormones which control osmoregulation are :
- (a) Vasopressin and thyrotropin
 - (b) Aldosterone and corticotropin
 - (c) Thyrotropin and corticotropin
 - (d) Vasopressin and Aldosterone
- (xi) The temperature regulating centre in brain is located at :
- (a) Pons
 - (b) Medulla oblongata
 - (c) Thalamus
 - (d) Hypothalamus

AC-234276/560

(4)

SECTION-B

(Very Short Answer Type Questions)

Note : Attempt any five questions. Each question carries 2 marks
(Word limit 25 – 30 words). [5×2=10]

2. (i) Photorespiration
(ii) Smooth muscle
(iii) Activation
(iv) Chloride shift
(v) Thermoregulation
(vi) Biological rhythm
(vii) Osmoconformers

SECTION-C

(Short Answer Type Questions)

Note : Attempt any five questions. Each question carries 4 marks
(Word limit 250 words). [5×4=20]

3. Write short notes on the following :
- (i) Bioluminescence

AC-234276/560

(5)

[P.T.O.]



- (ii) Osmoregulation
- (iii) Echolocation
- (iv) Transport of CO₂
- (v) Acid base balance
- (vi) Regulation of body pH
- (vii) Ureotelism

SECTION-D

(Essay Type Questions)

Note : Attempt **any three** questions. Each question carries 10 marks (Word limit 500 words). [3×10=30]

3. Describe the regulation of heart beat and blood pressure.
4. Give an account on osmoregulation in terrestrial and aquatic environment.
5. Describe the neuronal control of muscle contraction.
6. Describe the Biological rhythms with suitable example.

-----X-----