

Seat no: _____



A Charutar Vidya Mandal's Institution
V.P. & R.P.T.P. SCIENCE COLLEGE
(AUTONOMOUS) (Grant-in-Aid)
Affiliated to Sardar Patel University
VALLABH VIDYANAGAR-388120



Bachelor of Science (Semester- 3) External Examination – 2025
US03MAZOO02: PHYSIOLOGY & ADAPTATION

Date: 07-10-2025, (TUESDAY)

Time: 2:00 PM to 4:30 PM (2.5 hrs)

Total marks: 50

Q-1 Write the most appropriate answer from the following multiple-choice questions. [10]

(1) Epinephrine is synthesis from

- | | |
|-------------------|-----------------------|
| (a) Adrenal gland | (b) Parathyroid gland |
| (c) Thyroid gland | (d) Pitutary gland |

(2) Which cell type of Ilet's of Langerhans is responsible for diabetes?

- | | |
|-----------------|------------------|
| (a) Alpha cells | (b) Beta cells |
| (c) Delta cells | (d) All of these |

(3) Which hormone is secreted by ovaries?

- | | |
|------------------|---------------|
| (a) Estrogen | (b) Insulin |
| (c) Testosterone | (d) Oxytocin |

(4) ECG stands for:

- | | |
|---------------------------|------------------------|
| (a) Electromyogram | (b) Electrocardiograph |
| (c) Electroencephalograph | (d) Electrocardiogram |

(5) Vital capacity is equal to

- | | |
|--------------------|--------------|
| (a) TV + RV | (b) ERV + RV |
| (c) TV + IRV + ERV | (d) IRV + RV |

(6) The nervous system is responsible for

- | | |
|--------------------------|----------------------|
| (a) Conscious activities | (b) Coordination |
| (c) Reflex actions | (d) All of the these |

(7) Neurotransmitters are released at

- | | |
|--------------------|--------------|
| (a) Axon terminals | (b) Dendrite |
| (c) Cell body | (d) Nucleus |

(8) Which cranial nerve is responsible for smell?

- | | |
|--------------------|--------------------|
| (a) Facial nerve | (b)Olfactory nerve |
| (c) Auditory nerve | (d) Optic nerve |



(9) What is the term for animals that have adaptations for long, strong limbs?

- (a) Cursorial
- (b) Volant
- (c) Arboreal
- (d) Fossorial

(10) Transparent eyelid (nictitating membrane) in frogs is used for

- (a) Hearing
- (b) Breathing
- (c) Digestion
- (d) Protection while swimming

Q-2 (A) Write a note on hormones synthesis from adrenal gland. [7]

(B) Write about role of hormones synthesis from Pancreas. [3]

OR

Q-2 (A) Describe the structure & functions of hormones synthesis from Ovary. [7]

(B) Write about functions of hormone synthesis from posterior pituitary gland [3]

Q-3 (A) Describe the Human respiratory organs with labeled diagram. [6]

(B) Explain the cardiac cycle. [4]

OR

Q-3 (A) Describe the structure of Human heart with labeled diagram. [6]

(B) Write about Tuberculosis and Asthma. [4]

Q-4 (A) Explain the transmission of nerve impulses on non-myelinated nerve fiber. [7]

(B) Draw & labeled the diagram of reflex arc. [3]

OR

Q-4 (A) Describe the structure and functions of Human fore brain. [7]

(B) Write about functional classification of nerve fiber. [3]

Q-5 (A) Describe the characteristics of Aquatic adaptation. [7]

(B) Explain the mimicry with example. [3]

OR

Q-5 (A) Describe the characteristics of burrowing adaptation. [7]

(B) Explain the Ecolocation in Bat. [3]

