

M. Sc. CLINICAL RESEARCH
SEMESTER - II EXAMINATION, JUNE – 2026
(2025 Batch)

(CMCR517) ENVIRONMENTAL & REGULATORY PHYSIOLOGY

[Time Allotted: 3:00 Hours]

[Max. Marks: 100]

Note: Read all the instructions carefully

Answer all questions in serial order, Draw suitable diagrams wherever necessary

Q. 1. Objective type questions: (Attempt All) (10 x 02 = 20)

(Very short/ short answer/ MCQ/ One liners/ Fill in the blanks/ True/False)

- a. The junction between two neurons where communication occurs via neurotransmitters is called a _____.
CO1PO5
- b. _____ cells are the glial cells responsible for forming the myelin sheath in the Peripheral Nervous System.
CO1PO3PO5
- c. The _____ law states that if a stimulus is of threshold strength, a nerve fibre will respond maximally or not at all
CO1PO3
- d. ADH is produced by -----
CO3PO5
- e. Somatotrophs cell produce -----
CO3PO5
- f. RMP of nerve fibre is -----
CO1PO5
- g. At rest cell membrane is permeable to-----ion
CO1PO5
- h. Two example of active transport mechanism ----- & -----
CO2PO5
- i. Example of steroid hormone ----- & -----
CO3PO5
- j. Total blood volume is -----
CO2PO3

Q. 2. Short notes / Short Answer Type (Attempt any five out of seven) (5 x 4 = 20)

- a. Structure and function of synapses
CO3PO3,PO5
- b. Classification of hormones
CO3PO5
- c. Mechanism of impulse conduction
CO3PO5
- d. Cell to cell communication
CO3PO5
- e. Passive transport mechanism
CO2PO5
- f. Functions of plasma proteins
CO1PO5
- g. Structure and functions of mitochondria
CO1PO5

Q. 3. Structured Question (Attempt any three out of four) (3 x 10 = 30)

- a. (i) Define homeostasis (ii) What mechanisms involved in the maintenance of homeostasis
(iii) Example with suitable examples
CO1PO3PO5
- b. (i) Define puberty (ii) Describe the changes that occur during puberty in males and females
(iii) At what age puberty starts in males and females.
CO3PO3PO5
- c. (i) Enumerate the hormones produced by thyroid gland (ii) Describe the synthesis of thyroid hormones
(iii) Draw a flow chart showing regulation of thyroid hormone secretion
CO3PO3PO5
- d. (i) Draw a well labelled diagram of neuron (ii) Describe the functions of each part
(iii) Enumerate the difference between myelinated and un-myelinated neurons.
CO1PO5

Q. 4. Long Answer/Essay type (Attempt any two out of three) (2 x 15 = 30)

- a. (i) Describe the menstrual cycle with diagram (ii) Explain its hormonal regulation
CO3PO3PO5
- b. (i) Describe the properties of synapses (ii) Classify the synapses
CO3PO3PO5
- c. (i) Draw a diagram of sperm (ii) Explain the spermatogenesis and its regulation
CO3PO3PO5.