

001/19

The West Bengal University of Health Sciences
MBBS 1st Professional Examination, July 2019

Subject: Physiology
Paper : II

Full Marks : 50
Time : 2 ½ hours

Attempt all questions. The figures in the margin indicate full marks.

Group A

1. a) Draw a diagram of neural connections in the cerebellum. What are the different functional divisions of cerebellum? Explain how it helps in smooth and coordinated movement. Mention the abnormalities associated with damage to the cerebellum. 3+3+3+3

or

- b) Enumerate the layers of adrenal cortex and the hormones secreted from them. Explain how aldosterone controls extracellular fluid volume. What is aldosterone escape? 3+7+2

Group B

2. Answer *any two* of the following: 2 x 7

- a) Explain how the medullary interstitial fluid becomes hyperosmotic. What is its functional implication? 7
- b) What are photoreceptors? What are their functions? Explain briefly the mechanism of photo-transduction. 1+2+4
- c) Define ovulation. How does interplay of different hormones lead to ovulation? How is it detected? 2+3+2

Group C

3. Write short notes on *any four* of the following: 4 x 3

- a) Hormonal control of lactation
- b) Blood brain barrier
- c) Tetany
- d) Paradoxical sleep
- e) Osmotic diuresis

Group D

4. Give the physiological explanation of the following: 4 x 3

- a) Acromegaly may be associated with visual field defect.
- b) Near point of vision recedes as age advances.
- c) Visual acuity is maximum at fovea centralis.
- d) Jendrassik maneuver is used to elicit a larger tendon jerk.