

**First M.B.B.S. (2019) Examination, (Phase - III) Winter - 2021**  
**PHYSIOLOGY - II**

Total Duration : Section A + B = 3 Hours

Section B Marks : 80

**Section - B**

- Instructions :**
- 1) Use **blue/black** ball point pen only.
  - 2) Do not write anything on the **blank portion of the question paper**. If written anything, such type of act will be considered as an attempt to resort to unfair means.
  - 3) **All questions are compulsory.**
  - 4) The number to the **right** indicates **full marks**.
  - 5) Draw diagrams **wherever necessary**.
  - 6) **Distribution of syllabus in Question Paper is only meant to cover entire syllabus within the stipulated frame. The Question paper pattern is a mere guideline. Questions can be asked from any paper's syllabus into any question paper. Students cannot claim that the Question is out of syllabus. As it is only for the placement sake, the distribution has been done.**
  - 7) Use a common answer book for Section B.

2. Brief answer question (any ten out of Eleven) : [10 × 2 = 20]

- a) What is labeled line principle?
- b) Enlist any four contraceptive methods in females.
- c) Write any two differences between red and pale muscle fibers.
- d) Write any two differences between pyramidal and extra pyramidal tracts.
- e) Enumerate any four sensations carried by dorsal column pathway.
- f) Justify use of concave lens in correction of myopia.
- g) Enumerate the hormones having receptors on cell membrane.
- h) Write two actions of oxytocin.
- i) What is attenuation reflex in hearing?
- j) Enlist four important clinical signs of cerebellar lesion.
- k) What is the function of Human Chorionic Gonadotropin?

## 3. Short answer question (any Eight out of nine) :

- a) What are physiological actions of testosterone in males?
- b) Describe the mechanism of ovulation. Name the tests to detect ovulation.
- c) Describe the response of body when exposed to extreme cold.
- d) What is the mechanism and significance of dark adaptation in eye?
- e) Draw and label organ of Corti. Add a note on Place principle.
- f) Describe in detail any two functions of hypothalamus.
- g) A dead body of around 70 year old female patient is brought for post mortem . There is rigidity and stiffness of muscles all over the body. A) What is this condition called as ? B) What is the cause of this condition ? C) What is the importance of this condition?
- h) Compare and contrast REM and non REM sleep.
- i) A 40 year old male came to medicine OPD with complaints of weakness, hyper pigmentation of skin and mucus membrane. On examination his blood pressure is 90/60 mm Hg. Blood investigations reveal. Serum Na=130 mEq/L, Serum K=4.6 mEq/L, pH=7.2 A) What is likely diagnosis in this patient ?B) What are normal serum Na and K levels in human body ? C) What is the treatment of this condition ? D) What will be the complications if the condition is not treated ?

## 4. Long Answer Questions (Any Two out of Three) :

[2 × 10 = 20]

- a) Describe hormonal regulation of blood calcium level. Add a note on hypocalcemic tetany. [7+3=10]
- b) Define pain. Describe the pathway for pain sensation. Add a note on referred pain. [1+6+3=10]
- c) Define accommodation to near vision. Describe the neural pathway and changes occurring during accommodation . Add a note on presbyopia. [1+6+3=10]

