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01112B

**First M.B.B.S. 2019 (New Course) Examination,
Summer (Phase - IV) 2020
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.

2. Brief Answer Questions (Any Ten out of Eleven): [10 × 2 = 20]
- a) What are the effects of growth hormone on protein metabolism?
 - b) Name the different cell types found in anterior pituitary gland with the hormones that they secrete.
 - c) Compare and contrast upper motor neuron lesion and lower motor neuron lesion.
 - d) Enumerate the effects of oestrogen on fallopian tubes.
 - e) What is inhibin? What is its function?
 - f) What are the functions of the climbing fibres and Mossy fibres?
 - g) State differences between rods and cones.
 - h) What are the functions of otolith organs?
 - i) Differentiate between red and white skeletal muscle fibre.
 - j) State any four actions of oxytocin.
 - k) Enumerate the functions of premotor cortex, area 6.

N - 1024

P.T.O.

01112B**3. Short Answer Questions (Any Eight out of Nine):** **[8 × 5 = 40]**

- a) A 42 year old man with myasthenia gravis notes increased muscle strength when he is treated with an acetyl cholinesterase (AChE) inhibitor. What is the physiological basis for his improvement? Explain the steps in neuromuscular transmission in skeletal muscle.
- b) A 70 year old man presented with a complaint of stabbing type of pain on the right side of the face lasting for a few seconds to few minutes at a time. It is often set off while chewing or eating with the bolus of food on the right side of jaw. What is the most probable cause of this pain? How is it managed? Add a note on brain's opiate system.
- c) Explain the changes during degeneration and regeneration of injured nerve fibres.
- d) Classify methods of contraception. Explain the physiological basis for use of oral contraceptive pills.
- e) Explain theories of colour vision. Add a note on colour blindness.
- f) Enumerate the properties of receptors. Add a note on adaptation of receptors.
- g) Classify memory. Explain the mechanisms for long term memory.
- h) Enumerate hormones secreted by placenta. What are the functions of placenta?
- i) Name the hormones secreted by adrenal cortex. What are the functions of gluco-corticoids?

4. Long Answer Questions (Any Two out of Three): **[2 × 10 = 20]**

- a) Define and classify reflexes. Explain stretch reflex. Add a note on role of muscle spindle in voluntary motor activity. **[1+2+4+3]**
- b) What is normal serum calcium level? How is calcium level regulated in the blood? Add a note on tetany. **[1+6+3]**
- c) Explain the role of organ of Corti in hearing with a well labelled diagram. What are the types of deafness? Explain the tests of hearing for diagnosis of deafness. **[4+2+2+2]**

