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**The West Bengal University of Health Sciences
MBBS 1st Professional Examination (New Regulation),
February – March 2026**

**Subject: Physiology
Paper: II**

**Full Marks: 100
Time: 3 hours**

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

1. With a well-labelled diagram, trace the pain pathway. What are the neurotransmitters involved in the pathways? Discuss various analgesic mechanisms in our body. 8+2+5

2. Explain the following statements: 5x3

- i) Creatinine clearance is preferred in assessing GFR.
- ii) Steroids should be tapered off after prolonged use.
- iii) Attenuation reflex is a protective reflex.
- iv) Corpus luteum is a temporary endocrine gland.
- v) Older persons show presbyopia.

3. Short notes (Applied aspect) 4x5

- i) Referred pain.
- ii) Functions of thyroid hormone.
- iii) Ovarian changes of an anovulatory menstrual cycle.
- iv) Origin and spread of Cardiac impulse.

4. Short notes: 3x6

- i) Acromegaly
- ii) Functions of Cerebellum.
- iii) Brown-Sequard Syndrome.

5. Write short notes on the following: 4x5

- i) Milk-ejection reflex.
- ii) Juxta-glomerular apparatus.
- iii) What does it mean to be a patient?
- iv) Physiological basis of phototherapy.

6. Choose the best answer among all of the following: 12x1

- i) Sartoli cells produce all of the following except:
a) Estrogen b) MIH c) Inhibin d) Testosterone
- ii) Osteoclasts are inhibited by direct action of following hormone:
a) Calcitonin b) Parathormone c) Cholecalciferol d) CGRP
- iii) A 45 year old female comes to OPD with burn injury of her thumb. She had no pain sensation, but could feel touch in palm. She may be suffering from:
a) Cauda equina syndrome b) Dissociated anaesthesia
c) Paresthesia d) Allodynia

- iv) Hormones that act through JAK-STAT pathway are all except:
a) Prolactin b) Insulin c) Growth hormone d) Various growth factors
- v) Renal blood flow may be determined by:
a) Inulin clearance b) Creatinine clearance c) PAH clearance d) None of the above
- vi) A 40-year-old female presents with weight gain, facial puffiness and hypertension. Which hormone in excess may be the likely cause?
a) Insulin b) Cortisol c) Thyroxine d) Growth hormone
- vii) Which tract contained in middle cerebellar peduncle?
a) Corticospinal tract b) Posterior spinocerebellar tract
c) Ventral spinocerebellar tract d) Corticopontocerebellar tract
- viii) Stereocilia of hair cells are embedded in:
a) Basilar Membrane b) Reissner's membrane
c) Tectorial Membrane d) Tympanic membrane
- ix) A 50-year-old patient presents with cerebellar dysfunction. Which of the following symptom he may complain of?
a) Resting tremor b) Ataxia c) Athetosis d) Cogwheel rigidity
- x) A person is setting down after a brisk walk, he is feeling hot, which of the response is false?
a) Shivering b) Sweating c) Cutaneous vasodilatation d) increased respiration
- xi) A 25 year old man was a victim of road traffic accident. Imaging shows damage to Right optic radiation Upper division. This will lead to-
a) Right superior Quadratic anopia b) Left superior Quadratic anopia
c) Right Inferior Quadratic anopia d) Left Inferior Quadratic anopia
- xii) During tuning fork test, a patient shows $BC > AC$ in left ear and $AC > BC$ in right ear. In Weber's test sound was better heard in left ear. Probable diagnosis is:
a) Nerve deafness of left ear b) Nerve deafness of right ear
c) Conductive deafness of left ear d) Conductive deafness of right ear