

Seat No: _____

Enrollment No: _____

PARUL UNIVERSITY
FACULTY OF MEDICINE
M.B.B.S DECEMBER 2021 EXAMINATION

Year: 1
Subject Code: 19100184
Subject Name: Physiology Paper-II

Date: 22/12/2021
Time: 10.00 am to 01:00 pm
Total Marks: 100

Instructions:

1. Attempt all questions from each section.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.

SECTION – A

Q- 1 Structured Essay question (No choice) 2x10 (20)

A. A patient complains of polyuria, polydipsia but no glycosuria. Specific gravity of urine is very low. Person feels discomfort because of frequent urination during day and night with disturbed sleep.

1. What could be the basis of these symptoms? (2)
2. What are the causes of diabetes insipidus? (2)
3. What is the difference between diabetes insipidus and diabetes mellitus? (3)
4. Explain the physiological actions of ADH. (3)

B. In a road accident, a person had spinal injury. MRI of spinal cord reveals hemisection on right side.

1. What symptoms will be observed above hemisection on both sides? (2)
2. What symptoms will be observed at the level of hemisection on both sides?(3)
3. What is Brown Sequard Syndrome? Explain in brief. (5)

Q- 2 Write short notes on : (Any Four out of Five) 4x5 (20)

1. Reflex Arc
2. Flight and fight reactions.
3. REM Sleep
4. Sarcomere.
5. Lateral spinothalamic tract.

SECTION – B

Q- 3 Explain briefly on : (Any Three out of Four) 3x6 (18)

A. A young girl complains to the family doctor about painful and scanty menstruation with irregularities. She feels depression before onset of menstrual bleeding.

1. Name the phases of menstrual cycle. (1)
2. Name the four hormones which regulate menstrual cycle? (2)
3. Give examples of physiological amenorrhea. (1)
4. What is menopause ? What are its symptoms? (2)

B. A patient came to doctor with complaints of severe headache and some visual loss. MRI showed an intracranial tumor at the level of optic chiasma.

1. What will visual field examination show and why? (2)
2. What is homonymous hemianopia? Give the lesions involved? (2)
3. What is physiological blind spot & where is it located in visual field chart? (2)

C. An old man complains about loss of recent memories. He also finds difficulty in learning new methods in various fields.

1. Name the functional unit of nervous system? (1)
2. What will be the cause of loss of memory in old age? (2)
3. Explain Wallerian degeneration in brief. (3)

D. A patient complaining of sweating, palpitation, fine tremors in fingers, more pulse pressure with feverish feelings and insomnia. Swelling of neck is present. Lab test shows rise in T3 & T4 level while fall in TSH level.

1. What is the basis of his symptoms? (1)
2. Write steps of thyroxine synthesis (2)
3. Explain effect of thyroxine on CVS, CNS and GIT. (3)

Q- 4 Write shortnotes on : (Any Three out of Four) 3x4

(12)

1. Types of Deafness
2. Myopia & Hypermetropia
3. Functions of skin.
4. Synaptic transmission

SECTION - C

Q- 5 Write short notes on : (Any five out of Six) 5x5

(25)

1. What is ovulation? Add a note on its hormonal control.
2. Hormones in Lactation.
3. Physiological actions of Parathyroid hormones.
4. Physiological actions of Growth hormone in our body.
5. What is safe period of menstrual cycle? Add a note on intrauterine contraceptive devices. (IUCD)
6. Endocrine functions of Hypothalamus.

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Q- 6 Tick mark only correct Answer in MCQ 5 x 1

(05)

1. A lady who delivered her baby 3 days ago, was experiencing a delay in onset of lactation. Which one is main hormone responsible for production of milk from mammary glands?
a. Estrogen. b. Oxytocin c. Progesterone d. Prolactin

2. A 55 years old patient, on clinical neurological examination shows paralysis on one half of the body. Which is correct term for this condition?
a. Hemiplegia b. Paraplegia c. Quadriplegia d. none

3. A child presented with difficulty in seeing the blackboard in school, his teachers say that he does not do his classwork. Most probable cause is
a. Hypermetropia c. Myopia
b. Presbyopia d. Astigmatism

4. In a patient of chronic diabetes mellitus, is observed glycosuria even when blood sugar is less than 180 mg/dl. What it signifies?
a. Damage to kidney c. Damage to pancreas
b. Damage to liver d. All of above.

5. A 48-year-old man comes to the emergency department complaining of trouble seeing and has difficulty in swallowing. 24 hours earlier he ate some green beans that were canned. His Stool sample is positive for Clostridium bacteria. What is your probable diagnosis in this patient?
a. Muscular Dystrophy c. Tuberculosis
b. Botulism toxicity d. Typhoid