

PARUL UNIVERSITY
FACULTY OF MEDICINE
M.B.B.S Examination , October 2020

Year: 1

Date: 30/10/2020

Subject Code: 19100184

Time: 10.000 am to 1.00 pm

Subject Name: Physiology Paper-II

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 68-year-old man visits his physician's office complaining of trembling hands and difficulty in walking.

Neurologic examination: Resting tremor of the hands that diminished when performing a task. The patient's facial expressions were reduced. When walking, the patient had difficulty taking the first step but then was able to walk smoothly with a shuffling gait.

1. What is the probable diagnosis (2)
2. What is the pathophysiology behind the symptoms (4)
3. List the functions of basal ganglia (4)

b A 53 year-old woman presents with complaints of fatigue, weight gain, and constipation. She states that her weight has gradually increased over the last year despite no change in her activity level or eating habits. She is diagnosed as suffering from myxedema.

1. What is myxedema and cretinism? Describe their characteristic features.(5)
2. Explain why early diagnosis and treatment of cretinism is vital? (2)
3. What is the role of hypothalamus and pituitary in regulating thyroid functions.(3)

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

- 1 Lateral spinothalamic tracts
- 2 Differentiate REM sleep from NREM sleep
- 3 What is synapse? Describe synaptic transmission.
- 4 Reticular formation.
- 5 Hypothermia

SECTION – B

Q.3 Explain briefly on: (any Three out of Four) 3x6 (18)

A A 55 yr old driver , consulted an ophthalmologist with complaints of difficulty in vision during driving as well as reading, from the last few months. He was diagnosed with presbyopia.

1. What is presbyopia?(1)
2. What type of lenses should be prescribed? (1)
3. Describe the accommodation reflex.(3)

B A young boy of 5 yrs, presented with a complaint of deafness of the left ear. History of discharge with fever and earache of the left ear, on and off since 1 yr. He was diagnosed as having chronic suppurative otitis media / inflammatory middle ear disease.

1. What will be the type of hearing loss in this case?(1)
2. List the types of deafness? (1)
3. Describe any two functions of middle ear (3)

C A young woman aged 24 yrs, with a history of menorrhagia is diagnosed as having anovulatory cycles.

1. What do you mean by anovulatory cycles?(1)
2. Describe hormonal regulation of ovulation (3)
3. Name any three tests to indicate ovulation (2)

Q.4 Write short notes on : (any Three out of Four) 3x4 (12)

- 1 Myasthenia gravis
- 2 Degeneration of peripheral nerve fibres.
- 3 Photoreceptors.
- 4 Describe different types of proteins in skeletal muscle .Give their functions

SECTION – C

Q.5 Write short notes on :(Any Five out of Six)

5x5 (25)

1. Calcium homeostasis
2. Antidiuretic hormone
3. Physiological actions of glucocorticoids
4. Functions of placenta
5. Testosterone
6. Acromegaly and gigantism.

Q.6 Answer in MCQ

5x1 (5)

1. **A 50 years old man, who is a diabetic since 5 yrs, was advised regular exercise to control his blood glucose levels. Which of the following is not a beneficial effect of exercise in people with diabetes**
(a) Reduction in triglyceride (b) Hypoglycemia
(c) Increase in insulin sensitivity (d) Help controlling hypertension
2. **When an individual displays a deficit in the comprehension of speech involving difficulties in recognizing spoken words and converting them into words , he has a condition called as**
(a) Wernicke s aphasia (b) Broca s aphasia
(c) Beidecker aphasia (d) Warmick s aphasia
3. **A Male with problems of infertility was diagnosed with cryptorchidism. This is a condition in which**
(a) Male hormones are not reactive (b) Ovaries are removed
(c) Sperms are not formed (d) Testis fails to descend in scrotal sacs
4. **The mother of a young boy notices that he sits close to the TV when viewing it, and brings books very close to his face while reading. After examination he was prescribed use of spectacles with concave lens.What is the likely diagnosis?**
(a) Myopia (b) Hypermetropia
(c) Astigmatism (d) Presbyopia
5. **Babinski's reflex is present in all,except**
(a) Upper motor neuron lesion (b) In healthy young adults
(c) Infants (d) Sound deep sleep