

Date: 19-11-2024

1124E 348

First Year MBBS Examination

I MBBS Physiology Paper 2

Time: 3 hours Max Marks: 100

Instructions: 1. Answer to the points. 2. Use separate answer books for each section. 3. Draw diagrams wherever necessary.

Section 1

1. Write the following structured long question.
(Any 1 out of 2) $1 \times 10 = 10$ Marks (10)

a) Describe muscle spindle and analyse their function as a part of feedback system that control muscle length. ($5 \times 2 = 10$)

b) What is hemiplegia? List the clinical feature of this condition. Write the differences between UMN lesion and LMN lesion.

($3 + 3 + 4 = 10$)

2. Case based scenario. (Any 2 out of 3)

2x6=12 Marks (12)

a) A patient aged 70 year brought to hospital with history of difficulty in walking, stoops forwards while walking and abnormal rhythmic movement in hands at rest. 1. What is the probable diagnosis? (2) 2. What are other clinical features of the disease? (2) 3. Explain the physiological basis for the clinical features. (2)

b) A 50 year old lady came to OPD with complaints of swelling in the neck and observed little protrusion of eyes. She also complained of tremors in hand. 1. What is probable diagnosis? (2) 2. How to confirm it? (2) 3. What is the physiological basis of her signs and symptoms? (2)

c) A 46 year old female visited gynaecologist with complaints of increased and irregular duration between her menstrual cycles. She

also complains of increased irritability, fatigue, mood swings. 1. What is the condition called?

(1) 2. What changes occur in this condition?

(3) 3. Risk factors of which diseases increased after this condition? (2)

3. Write short notes on: (Any 3 out of 4)

3x6=18 Marks (18)

a) Dumping syndrome

b) Indicators of ovulation

c) Exocrine function of pancreas

d) Malabsorption syndrome

4. Answer in only 2-3 sentences. (Any 5 out of 6) 5x2=10 Marks (10)

a) Why lactation leads to temporary infertility?

b) Why only one sperm can penetrate the egg?

~~c) Law of projection.~~

d) Why boys are taller than girls?

e) Why blood becomes alkaline following meals?

f) Why pancreas is not autodigested?

Section 2

5. Write the following structured long question.
(Any 1 out of 2) 1x10=10 Marks (10)

a) What are the hormones secreted from the posterior pituitary? Discuss their actions.
What is SIADH? (2+5+3=10)

b) A 40 year old male presented with symptoms of weakness, fatigue, weight loss and anorexia. Examination revealed increased pigmentation of skin and mucous membranes. Blood investigation revealed Plasma Cortisol low, ACTH levels were high i. What is the cause of this condition? (2) 2. What is the physiological basis seen in this case? (5) 3.

~~Write the mechanism of action of hormones~~

involved in this condition. (3)

6. Write short notes on: (Any 2 out of 3)

2x6=12 Marks (12)

- a) Excitation-contraction coupling
- b) Latch bridge mechanism
- c) Classification of nerve fibres

7. Write short notes on: (Any 3 out of 4)

3x6=18 Marks (18)

- a) Accommodation reflex
- b) Organ of corti
- c) Olfactory pathway
- d) Myasthenia gravis

8. Answer in only 2-3 sentences. (Any 5 out of

6) 5x2=10 Marks (10)

- a) Why do we feel hotter on humid day?

b) Why there is yellowish tinge in hypothyroidism?

c) Why visceral pain is poorly localised?

d) Why there is drooping of eyelids in Horner syndrome?

e) Hypocalcemia is seldom a cause of bleeding disorder.

f) Why showing light in right eye leads to papillary constriction in left eye?

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