Date: 15-02-2024

224 E 656

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 questions (Any 1 out of 2)

1X 10 = 10 Marks

   a. Enumerate the various parts of Basal ganglia. Describe the connections & functions of the basal ganglia. Enumerate the clinical features of Parkinsonism. (2+3+2+3= 10)

   (10)

   b. With the help of diagram explain the

dorsal column medial lemniscal pathway. Write in brief about the spinal & supraspinal analgesia system. (7+3 = 10)

2. Write the following case-based scenario/applied short notes (Any 2 out of 3) 2X 6 =12 Marks

   a. A young boy suffers from spinal muscular atrophy which is characterized by loss of motor neurons in the ventral horn of the spinal cord. What shall be the features of muscles affected in such patients (2) What are the features of paralysis in this patient (2) What are the features of superficial & deep reflexes in such patients (2)

   (12)

   b. A 45-year-old lady came to hospital with complains of weight gain despite poor appetite, constipation, cold intolerance, tiredness, hoarse voice, poor memory & inability to concentrate. On examination her extremities were cool & skin was dry & coarse. She had bradycardia,

diastolic hypertension, edematous hands & feet, diffuse alopecia.a) What could be the most probable diagnosis. Q) b) What investigations would you like to conduct? (2) c) What is the physiological basis of clinical features of this disease (3)

c. Describe the various stages of spermatogenesis. Add a note on semen analysis. (4+2 = 6)

3. Write short notes on the following (Any 3 out of 4) 3X6 = 18 Marks

a. Enterohepatic circulation of bile salts

(18)

b. Menstrual cycle

c. Exocrine pancreas

d. Physiological changes in pregnancy

4. Answer in only 2-3 sentences. (Any 5 out of 6) 5 X2=10 Marks

a. Post prandial alkaline tide

(10)

b. Role of Jendrassik maneuver

c. Mechanism of action of intrauterine contraceptive devices

d. Traveling wave theory of sound waves

e. Mechanism of analgesia produced by acupuncture & counterirritant creams.

f. Why is dimorphic anemia usually produced in patients after total gastrectomy

Section 2

1. Write the following structured long question (Any 1 out of 2)

   1X 10 = 10 Marks

   a. Enumerate the layers of adrenal cortex and hormones secreted by each of them. Describe the actions of Glucocorticoids. Add a note on Cushing syndrome. (2+5+3 = 10)

   (10)

   b. Explain the mechanism of action of Insulin. Explain the pathophysiology of Diabetes Mellitus. Differentiate between Type I & Type II Diabetes Mellitus. (3+4+3 = 10)

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

   2X 6=12 Marks

   a. Mechanism of smooth muscle contraction

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   (12)

   b. Neuromuscular junction disorders &

blockers

c. Wallerian degeneration and regeneration of nerve

3. Write short notes on (Any 3 out of 4) 3X 6= 18 Marks

a. Color blindness

(18)

b. Visual reflexes

c. Neurotransmitters of autonomic nervous system

d. Tuning fork tests of hearing

4. Answer in only 2-3 sentences (Any 5 out of 6) 5X2 = 10 Marks

a. Cause of Trousseau's sign in patients after thyroid surgery f

(10)

b. Why insulin is given with glucose in treatment of hyperkalemia

c. Sarcotubular system of skeletal muscle;

d. Physiology of rigor mortis

e. How anterior pituitary tumor causes visual field defect & what is the type of defect.

f. Why after prolonged steroid therapy the medicine should not be stopped suddenly.