17-11-2023

I-MBBS   **01112A3+01112A4**

(This question paper consists of 2 pages)

First M.B.B.S. (New Scheme) (Main) Examination

November - 2023

PHYSIOLOGY

Paper- II

Time: Three Hours

Maximum Marks: 100

Attempt all questions in both sections.

(Use separate answer book for each section)

Section-A

1. Fill in the blanks: **6x1=06**

   a) Clotting factor VIII is called _____.

   b) Cardiac output per minute per square meter of body surface area is called as _____.

   c) "Force of myocardial contraction is proportional to the initial length of cardiac muscle fibre" is known as _____ law.

   d) HCl is secreted by _____ cells of gastric mucosa.

   e) Shape of O_2 Hemoglobin dissociation curve is _____.

   f) B lymphocyte cells provide _____ immunity.

2. Choose the correct option in the following multiple choice questions:

   i) Renin is produced by:

   a) Macula densa

   b) Juxtaglomerular cells

   c) Mesangial cell

   d) All of the above

ii. Cyanosis is not a feature of which of the following Hypoxia:

   a) Hypoxic

   b) Histotoxic

   c) Stagnant

   d) None of the above

iii. Wrinkle effect in blood vessels is seen in:

   a) Large vein

   b) Small vein

   c) Capillaries

   d) Aorta and large arteries

iv. Positive chronotropic effect is:

   a) Increase in heart rate

   b) Decrease in heart rate

   c) Increase force of contraction of heart

   d) Decrease force of contraction of heart

3. A 40-year-old, obese female with past history of gall bladder stones comes to outpatient department. Her presenting complaints are pain in right side of abdomen, yellowing of sclera, passage of clay-coloured stool and intolerance to fatty foods.

On investigation- Total serum bilirubin is 12 mg/dl.

Based on the above case scenario, answer the following questions   3x5=15

a) What is the most probable diagnosis?

b) Explain the pathophysiology of the disease diagnosed.

c) What other laboratory findings you are expecting in this case?

4. Write short notes on (Any five):   **5x2=10**

   a) Composition of pancreatic juice

   b) Respiratory membrane

   c) Einthoven's law

   d) Erythroblastosis fetalis

   e) Immunoglobulins

   f) Renal threshold for glucose

5. Explain briefly (Any three):   **3x5=15**

   a) Renal clearance

   b) Mechanism of secretion of HCl in stomach

   c) Effect of exercise on blood pressure

   d) Peristalsis

Section-B

6. Define blood pressure. Describe its components. Enumerate factors which control blood pressure. Add a note on regulation of blood pressure.   20

7. Explain Why (Any five):   **5x2=10**

   a) Inulin clearance is used for estimation of glomerular filtration rate.

   b) Augmented limb leads of electrocardiogram show increased size of potential as compared to non-augmented limb leads.

   c) Cardiac muscle cannot be tetanized.

   d) Glomerular filtrate does not contain protein molecules.

e) Heparin is used as anticoagulant.

f) Deficiency of surfactant produces infant respiratory distress syndrome.

8. Explain briefly (Any four):   **4x5=20**

a) ABO blood group system

b) Functions of bile

c) Renal function tests

d) Respiratory acidosis

e) Function of plasma proteins

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