RUHS

First Year MBBS Examination

I MBBS PHYSIOLOGY PAPER II

Date: 04-02-2021

Time: 3 hours Max Marks: 100

Instructions: INSTRUCTIONS: Attempt all questions in both sections: (Use separate answer book for each section)

Section 1

1. Fill in the blanks:: 6x1=06
    a. Cyanide poisoning is an example of hypoxia.
    b. Cholelithiasis is presence of stones in
    c. Heart rate increases during inspiration and decreases during expiration. This is called
    d. The site of erythropoiesis in the adult is
    e. are called are exchange vessels.
    f. Inability of the kidney to respond to ADH results in

2. Choose the correct option in the following multiple choice questions:
   a. A person complains of passing clay colored, bulky, greasy and foul smelling faeces for last two three days, most likely he is having : a) Malabsorption syndrome b) Pancreatic insufficiency c) Hepatitis d) Obstruction of bile ducts
   b. Pulmonary function changes seen in emphysema are: a) Increased TLC b) Decreased RV c) Increased FEV1 d) Increased VC
   c. Which if the following is the principle buffer in interstitial fluid? a) Hemoglobin b) Other proteins c) Carbonic acid d) H_2PO_4
   d. Which of the following components of the circulatory system contains the largest percentage of the total blood volume? a) Arteries b) Capillaries c) Veins d) Heart
3. A 40-year old woman visits the clinic complaining of fatigue. She had recently been treated an infection. Her laboratory findings are as follows: RBC count - 1.8 millions/cc; Hemoglobin 5.2 gm/dL; Haematocrit-15 WBC count-7600/cc:

Platelet count-320000/cc: MCV-92 fl, Reticulocyte count-24%. Based on the above case scenario, answer the following questions- a) What is the most likely diagnosis for this condition? b) What is the pathophysiology of the disease diagnosed? c) Give etiological and morphological classification of the condition diagnosed.

4. Write short notes on (any five): 5x2=10
   a. PR interval
   b. Law of Laplace
   c. Obstructive jaundice
   d. Segmentation contraction
   e. Lung compliance
   f. Vitamin K antagonists
5. Explain briefly (any two): 3x5=15
   a. Timed vital capacity and its importance
   b. Respiratory changes during muscular exercise
   c. Rennin Angiotensin system (A.634) (B.261) (C1-733)
   d. Regulation of exocrine pancreatic secretion

Section 2

1. Define and classify hypoxia. Give examples of cach type. Mention distinguishing features of each type of hypoxia. Explain the role of oxygen treatment in different types of hypoxia. Add a note on oxygen toxicity.
2. Explain why(Any five)
   a. Heart rate increases in linearity with severity of exercise
   b. Alveoli remain dry.
   c. Para Aminohippuric acid clearance is used for the measurement of renal blood flow.
   d. Vitamin K antagonists are used as anticoagulants.
   e. Proton pump inhibitors are used clinically for the treatment of gastric ulcers of various aetiologies.
   f. There is a post prandial alkaline tide
3. Explain briefly (any four): 4x5=20
   a. Autoimmunity
   b. Work of breathing
   c. Renal mechanisms of maintenance of normal specific gravity of urine

d. Physiological effects of physical training

e. Hemoglobinopathies

f. Transport maximum for glucose (C1-529)

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