SS/MBBS-I/PHY-II/07-21

MBBS 1st Professional Supplementary Exam

2021

(July)

PHYSIOLOGY

Paper-II

Full Marks: 100

Time: 3 hours

The figures in the margin indicate

full marks for the questions

Write the answers to the two Halves in separate books

Answer all questions

FIRST HALF

1. What are Baroreceptors? Enumerate with a neat labelled diagram, the sites where baroreceptors are located. Describe the role of baroreceptors in short-term regulation of blood pressure. What is baroreceptor resetting?

(2 + 5 + 5 + 3 = 15)

2. Write short notes on the following : 5×4=20

(a) Dumping syndrome

(b) Surfactant

(c) Free radicals

(d) Aquaporins

3. Discuss about the boundaries of the doctor-patient relationship. 5

4. Choose the correct option from the following : [1x10 = 10]

(a) The macrophage of liver is called

(i) endothelial cell

(ii) Kupffer cell

(iii) Langerhans cell

(iv) microglia cell

(b) Resting cardiac output in humans is

(i) 2L

(ii) 3L

(iii) 4L

(iv) 5L

(c) Heat cramps is due to

(i) hyponatraemia

(ii) hypernatraemia

(iii) hypokalaemia

(iv) hyperkalaemia

(d) Temporary haemostatic plug is converted into definitive plug by

(i) platelets

(ii) ATP

(iii) fibrin

(iv) serotonin

(e) Which one of the following causes relaxation of bronchial smooth muscle?

(i) Ach

(ii) VIP

(iii) Cool air

(iv) Sulphur dioxide

(f) The defect in histotoxic hypoxia is

(i) failure of the tissue to utilize O_2

(ii) inadequate pO_2 in the atmospheric air

(iii) inadequate blood flow

(iv) None of the above

(g) The nerve supply to carotid sinus and carotid body is

(i) vagus nerve

(ii) Hering's nerve

(iii) facial nerve

(iv) auditory nerve

(h) Haemophilia A is caused by the deficiency of

(i) factor II

(ii) factor VIII

(iii) factor X

(iv) factor XII

(i) Normocytic normochromic anaemia is seen in

(ii) chronic infection

(iii) sickle cell anaemia

(iii) iron deficiency

(iv) folic acid deficiency

(j) The maximum percentage of filtrate is reabsorbed from

(i) DCT

(ii) PCT

(iii) LH

(iv) Collecting duct

SECOND HALF

5. How is oxygen transported in the blood? Draw a diagram of oxygen-haemoglobin dissociation curve and list the factors influencing the oxygen-haemoglobin dissociation curve. What is oxygen toxicity? [4 + 3 + 5 + 3 = 15]

6. Write short notes on the following: 5x3=15

(a) Erythroblastosis foetalis

(b) Juxtaglomerular apparatus

(c) Hazards of mismatched blood transfusion

7. Give the physiological basis of: 2x5=10

(a) Sinoaortic nerves are called buffer nerves of the heart

(b) Post-prandial alkaline tide

(c) Blood does not clot in circulation

(d) Tuberculosis is more common in the apex of the lungs

(e) Aspirin in the low doses is of value in preventing myocardial infarction and stroke

8. A person comes to the hospital with pain abdomen and gives history of passing dark coloured urine but pale coloured stool. On examination, icterus is

present. Blood report shows bilirubin level to be 12 mgm% and increased alkaline phosphatase level :

(a) What is the probable diagnosis?

(b) What do you mean by icterus? What are the sites where you look for icterus?

(c) What should be the normal bilirubin level?

(d) Why is the colour of the stool pale?

(e) What is Van den Bergh test? Is it important in this case?

(f) What other tests will you advise to confirm your diagnosis?

[1 + 2 + 1 + 2 + 2 + 2 = 10]

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