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12-08-2024

I-MBBS

(This paper consists of 2 pages)

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

August- 2024

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: 6 x 1 = 06

   a) Arteries are called as _____ vessels.

   b) In obstructive lung disease, FEV_1/FVC ratio will _____.

   c) Secreting action on pancreatic juice secretion is_____.

   d) Deficiency of vitamin K leads to decreased activity of _____coagulation factors.

   e) Conversion of fibrinogen to fibrin is done by _____.

   f) Transport maximum for glucose is _____.

2. Choose the correct option in the following multiple choice questions: 4 x 1 = 04

   i) Oxygen dissociation curve shift to right in all except:

   a) Increase in partial pressure of CO_2 b) Decrease in partial pressure of O_2

   c) Increase in temperature d) Decrease in 2-3 DPG

   ii) The pacemaker cells in the Gut responsible for basic electrical rhythm (BER) is:

   a) T- Cells b) M cells

   c) Interstitial cells of Cajal d) P- cells

   iii) Unconjugated bilirubin does not appear in urine because:

   a) High molecular weight b) Bound to albumin

   c) Reabsorbed from renal tubules d) Removed by liver

   iv) Following are the steps of phagocytosis, except:

   a) Chemotaxis b) Opsonization

   c) Antigen presentation d) Diapedesis

3. A 35 years old female complaints of breathlessness, loss of appetite, apathy & easy fatigability. Examination of the patient revealed pallor, tachycardia & systolic murmur. Lab investigations are- Hemoglobin- 6.2 gm/dl, packed cell volume- 30 %, Total RBC count- 3.0 million cells/cub.mm. 3 x 5 = 15

   a) What is the probable diagnosis & why?

   b) Write the etiological & morphological classification of the diagnosed disorder.

c) Define blood indices & explain their significance.

4. Write short notes on (Any five): 5 x 2 = 10

a) Law of Gut

b) Cross matching

c) Counter current exchanger

d) Erythroblastosis foetalis

e) Total peripheral resistance

f) Alveolar ventilation

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

a) Glomerular filteration rate

b) Carbon-Di-Oxide transport mechanism in blood

c) Regulation of coronary blood flow

d) Dietary fibres

Section-B

6. Define blood pressure. Enumerate the determinants of blood pressure. Explain in detail about short & long term regulation of blood pressure. Add a note on Hypertension. 20

7. Explain Why (Any five): 5 x 2 = 10

a) Autonomic denervation of heart increase the heart rate.

b) Diuretics are used for treatment of Hypertension.

c) Packed cell volume is higher in high altitude residents.

d) Alcohol intoxication can be avoided if it is consumed after fat rich diet.

e) Premature neonates are prone to respiratory distress syndrome.

f) Tuberculosis is common in apex of lungs.

8. Explain briefly (Any four): 4 x 5 = 20

a) Effect of yoga & meditation on human body.

b) Volume & pressure changes in left ventricle in cardiac cycle.

c) Regulation of gastric juice secretion.

d) Hypoxia.

e) Cell mediated immunity.