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01112A

First M.B.B.S. 2019 (New Course) Examination, Summer (Phase - IV) 2020
PHYSIOLOGY - I

Total Duration : Section A + B = 3 Hours

Section B Marks : 80

SECTION - B

- Instructions :**
- 1) Use **blue/black** ball point pen only.
 - 2) Do not write anything on the **blank portion of the question paper**. If written anything, such type of act will be considered as an attempt to resort to unfair means.
 - 3) **All questions are compulsory.**
 - 4) The number to the **right** indicates **full marks**.
 - 5) Draw diagrams **wherever** necessary.
 - 6) Distribution of syllabus in Question Paper is only meant to cover entire syllabus within the stipulated frame. The Question paper pattern is a mere guideline. Questions can be asked from any paper's syllabus into any question paper. Students cannot claim that the Question is out of syllabus. As it is only for the placement sake, the distribution has been done.

2. Brief Answer Questions (**Any Ten** out of Eleven): **[10 × 2 = 20]**
- a) What is ESR? What is the importance of Physiological ESR?
 - b) List the conducting tissues of heart. What is Idioventricular rhythm of heart?
 - c) Define Homeostasis. Enumerate the feedback control mechanisms with example.
 - d) Enumerate the functions of Hb. What is the normal adult Hb level?
 - e) What is filtration fraction? Give its Physiological importance.
 - f) Write in brief about Gibbs Donnan Equilibrium.
 - g) Enumerate the functions of Large intestine.
 - h) What is Ventilation/Perfusion ratio? What is the effect of gravity on it?
 - i) Write in brief about the innervation of GIT.
 - j) Define Cyanosis. Give its types.
 - k) What is normal range of Heart rate in adult? Give the causes of Bradycardia.

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3. Short Answer Questions (Any Eight out of Nine): [8 × 5 = 40]
- a) Draw a well labeled diagram of ECG in lead II. Write in short the causes and normal duration of each wave in ECG.
 - b) What is Herring Breuer reflex? What is its Physiological significance?
 - c) Discuss the various Physiological changes occurring at high altitude. Add a note on acute mountain sickness.
 - d) Classify the blood groups. Discuss in short the hazards of mismatched blood transfusion.
 - e) What is Action potential? Write in short the ionic basis of its development.
 - f) Define Erythropoiesis. Discuss the role factors affecting Erythropoiesis.
 - g) Write in short about the rights and duties of patient.
 - h) A 60 year old man is admitted to the hospital with the complaints of weakness, fatigue and dizziness. The doctor diagnoses the condition as Hypokalemia and he is started on supplemental potassium, with improvement in symptoms.
 - i) What is the normal K distribution between ICF and ECF?
 - ii) Mention the factors that alter the distribution of K in ECF and ICF.
 - iii) Why the person is showing the muscle weakness?
 - i) A 24-year-old pregnant woman presented to the hospital in preterm labor and subsequently delivered a premature infant at only 27 weeks gestation. After the delivery, the infant cried, but it subsequently showed signs of hypoxia despite oxygen supplementation. The baby immediately was intubated by endotracheal tube and given surfactant down the endotracheal tube. The baby's hypoxia resolved, and he was transferred to the neonatal intensive care unit for further stabilization.
 - i) What is the role of surfactant in the lung?
 - ii) Where is the major site of airway resistance?
 - iii) How does stimulation of the parasympathetic system affect airway resistance?
4. Long Answer Questions (Any Two out of Three): [2 × 10 = 20]
- a) Define cardiac output. Discuss the factors affecting the cardiac output. Add a note on Fick's method of measurement of cardiac output.
 - b) What is the composition of gastric juice? Describe the mechanism of HCL secretion by the stomach in detail. Add a note on peptic ulcer.
 - c) Define GFR. Discuss the various factors affecting GFR in detail. Enumerate the mechanism of regulation.

