

First M.B.B.S. (2019) Examination, (Phase - III) Winter - 2021

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.
 - 7) Use a common answer book for Section B.

2. Brief answer question (**any ten** out of eleven) : [10 × 2 = 20]

- a) Define the term auto-immunization. Name the different auto immune disorders.
- b) Bile salts & Bile pigments
- c) Role of dietary fiber in food
- d) P-R Interval
- e) Vis - a - tergo & Vis - a - fronte
- f) Surfactant
- g) Why dehydration develops rapidly in children as compare to adults?
- h) Tubuloglomerular feedback
- i) Periodic Breathing
- j) Facilitated Diffusion with an example
- k) VO_2 max

3. Short answer question (**any eight** out of nine) : [8 × 5 = 40]

- a) Define Hemostasis . Describe the role of platelets in Hemostasis. What is Purpura?
- b) Describe the factors affecting Cardiac Output. Write briefly on pre load and after load on heart affecting the cardiac output.
- c) Define Blood Pressure. Why Diastolic Blood Pressure is clinically more important? Describe the role of Peripheral Resistance in controlling the blood pressure.

- d) Define Hypoxia. Give its type with characteristics feature of each type.
- e) Describe the mechanism of HCl secretion in stomach. What is peptic ulcer? Write the physiological basis for the treatment of peptic ulcer.
- f) Describe the causes of increase in Heart rate & pulmonary ventilation during muscular exercise. What do you mean by oxygen deficit & oxygen debt.
- g) Explain the Micturation Reflex. Give the significance of Cystometrogram. What is atonic bladder?
- h) Describe the tubular reabsorption of Na^+ & water in Kidney. What are the factors affecting Na^+ & water reabsorption in the nephron. Add a note on Natriuresis.
- i) A young doctor taking care of 80 years old men since last 2-3 years. He had a brain stroke 2 years ago and now has been mostly bed ridden. There is no one to take his care and his son is abroad. He requires preventive care and doctor mostly visits twice a week. The doctor spends time talking with him and make him comfortable. One day patient expresses the view that his son has been ungrateful to him & that he intends to call his lawyer & divide her assets between the doctor & only caretaker after his death. What should the doctor do? Answer in brief for the questions given below. 1) How the doctor should react on the trust & wish shown by the patient? 2) What should be the boundaries & limitations in doctor patient relationship? 3) Write briefly your opinion on Trust & Vulnerabilities in doctor patient relationships.

4. Long Answer Question (any two out of three) : [2 × 10 = 20]

- a) Define Circulatory shock. Classify the different types of shock. Describe the Haemorrhagic shock in detail. Give the physiological basis for the treatment of different types of circulatory shocks.
- b) What is Acclimatization? Explain the physiological readjustments and compensatory mechanisms in the body that adjust the effect of hypoxia at high altitude. Describe briefly pathophysiology of pulmonary oedema at high altitude.
- c) Describe the process of Leucopoiesis. Give the different types of leucocytes present in the blood with their functions & variations. Write briefly about physiology of phagocytic mechanism.

