



**UNIVERSITY EXAMINATION 2021/2022**

**MEDICAL SCHOOL**

**DEPARTMENT OF HUMAN PHYSIOLOGY**

**BACHELOR OF MEDICINE AND BACHELOR OF SURGERY (MBChB)**

**PAPER II**

**YEAR 1**

**UNIT CODE: MBMP1300**

**UNIT TITLE: MEDICAL PHYSIOLOGY I**

**DATE: TUE 12<sup>TH</sup> JULY, 2022 2.00PM MAIN EXAM TIME: 1:45 HOURS**

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**INSTRUCTIONS**

1. Read the questions carefully and answer only what has been asked
2. Section A: SHORT ANSWER QUESTIONS (TOTAL -60MRKS)
3. Section B: ESSAY – ANSWER 2 OUT OF 3 OPTIONS (TOTAL- 40 MRK)
4. All questions must be answered on the examination booklet
5. Enter your registration number and NOT your name in the space provided on your answer booklet
6. Each candidate must sign in the examination attendance list

**SAQ- ALL QUESTIONS ARE COMPULSORY. EACH 5 MARKS**

1. With the Aid of a diagram write short notes the process of translation
2. Briefly outline the types of membrane proteins and their roles.
3. The Gastrointestinal tract of a pig is extracted for an experiment to monitor its contraction and relaxation. Some adrenaline is injected onto the GIT muscle. Briefly describe the consequence of this and the physiology behind it.
4. Michael has been weight lifting heavily recently. Briefly discuss the physiological process that ensures that he doesn't drop his weights.
5. Describe the process of capillary exchange.

6. With the aid of a diagram describe the action potential in a cardiac myocyte.

(5 Marks)

7. A 25 year old female PATIENT PRESENTS TO Casualty, weak and with a thready pulse and her lab results indicate the following

HB- 4.2 g/dl

RBC-  $2.81 \times 10^{12}/L$

MCV- 65 (fL)

WBC-  $18.6 \times 10^9/L$

Briefly Discuss the management of this patient

8. Sasha is diagnosed with von Willebrand disease, briefly discuss what aspect of coagulation is affected due to her diagnosis.

9. Compare and contrast between Respiratory capacities and Volumes

10. What does the physiological process of acclimatization to higher altitude entail.

11. With the aid of a diagram illustrate the functions of the middle ear

12. Write short notes on the somatosensory cortex.

### **ESSAYS- SELECT 2 OUT OF 3**

1. With the aid of a diagram, illustrate the different stages of the cell cycle and regulation on the phases. (20 Marks)

2. a. Discuss the mechanism involved in the short-term regulation of blood pressure. (15 Marks)

b. Write short notes on cardiac output and its determinants. (5 Marks)

3. With the aid of a diagram discuss the Visual pathway and what kind of blindness would result in lesions along the pathway (20 marks)