



Technical university of Mombasa  
Faculty of mechanical engineering and technology  
DEPARTMENT OF MEDICAL ENGINEERING  
DIPLOMA IN MEDICAL ENGINEERING (DME 114s)  
AAB 2250 Human Anatomy and Physiology(paper B)  
Semester: Examination  
Series : August 2014  
Time :2 Hours

**INSTRUCTIONS:**

You should have the following for this paper

-Answer booklet

This paper consists of FIVE questions.

Answer Question ONE (compulsory) and any other TWO Questions.

Question ONE

- (i) Define the term anemia 2  
marks
- (ii) State TWO functions of neutrophils 2  
marks
- (i) State TWO functions of peroxisome organelle 2  
marks
- (ii) List the functions of musculoskeletal system 2  
marks
- Explain the following terms;
- (i) Ligaments 2  
marks
- (ii) Joints 2  
marks
- (d) Name the bones of vertebral column 4  
marks
- (e) (i) Explain the meaning of closed circulatory system 2  
marks
- (ii) State TWO functions of epithelial cells 2  
marks
- (f) (i) Name bones of auxiliary skeleton 2  
marks

(ii)List TWO types of muscles found in a human body 2  
marks

(g) (i) Name the main minerals stored in the bones 2  
marks

(ii)List TWO functions of connective tissue 2  
marks

(h)Name causes of chronic bronchitis 2  
marks

**Question TWO**

(a)Explain how cells acquire and utilize energy 5  
marks

(b)Explain intercellular junctions that provide for structural integrity of the epithelium 5  
marks

(c)Outline the procedure for measuring blood pressure with sphygmomanometer 5  
marks

**Question THREE**

(a)Explain systemic blood circulation 7  
marks

(b)Describe the causes of the following musculoskeletal disorders;  
(i)Arthritis

4 marks

(ii)Osteomalacia  
4 marks

**Question FOUR**

(a) Explain the external respiration 7  
marks

(b)Explain the transport of substances across a plasma membrane 8 marks

**Question FIVE**

(a)Describe factors which causes high blood pressure 8  
marks

(b)Explain gaseous exchange in the alveoli 7  
marks