



(UNIVERSITY OF CHOICE)

**MASINDE MULIRO UNIVERSITY OF SCIENCE
AND TECHNOLOGY (MMUST)**

**(MAIN CAMPUS)
UNIVERSITY EXAMINATIONS**

2016/2017 ACADEMIC YEAR

**FIRST YEAR, FIRST TRIMESTER EXAMINATIONS
FOR
BACHELOR OF SCIENCE IN PHYSIOTHERAPY**

COURSE CODE: BSP 113

COURSE TITLE: HUMAN PHYSIOLOGY

DATE: THURSDAY 8TH DECEMBER, 2016 TIME: 9.00AM-12.00NOON

INSTRUCTIONS TO CANDIDATES

ANSWER ALL QUESTIONS

SEC A: MULTIPLE CHOICE QUESTIONS (MCQ) 20 MARKS

SEC B: SHORT ANSWER QUESTIONS (SAQ) (40 MARKS)

SEC C : LONG ANSWER QUESTIONS (LAQ) (40 MARKS)

TIME: 3 HOURS

MMUST observes ZERO tolerance to examination cheating

This Paper Consists of --- Printed Pages. Please Turn Over.



SECTION A: MULTIPLE CHOICE QUESTIONS (20MARKS)

1. The thymus processes lymphocytes that are stimulated by an antigen to produce all the below new T-cells except;
 - a) Killer T
 - b) Murder T
 - c) Suppressor T
 - d) Helper T

2. The B lymphocyte secretes antibodies that attack the antigens in three of the following ways except
 - a) Bacterio-lysis
 - b) Osmolization
 - c) Antitoxins
 - d) Phagocytosis

3. The following are granulocytes except
 - a) Neutrophils
 - b) Eosinophils
 - c) Basophils
 - d) Monocytes

4. Homeostasis is maintained by the endocrine and nervous system.
 - a) True
 - b) False
 - c) None of the above

5. Control systems of homeostasis are
 - a) Extrinsic factors
 - b) Intrinsic factors
 - c) None of the above

6. The cell membrane is a bi-layer that is permeable and is not regulated by ion channels.
 - a) True
 - b) False

7. Lack of lysosomal enzymes causes the following lysosomal storage diseases except
 - a) Tay sac's disease
 - b) Alzheimer's disease
 - c) Gaucher's disease
 - d) Fabry's disease

8. The tight junction allows movement of ions and molecules between the cells while the gap junction holds the cell together.
 - a) True
 - b) False

9. From the statement below, which one is incorrect?
- Internal respiration is the exchange of gases between systemic blood vessels and the tissues.
 - Transport of oxygen is between the lungs and the tissues
 - External respiration is exchange of gas between the lungs and the blood
 - Pulmonary ventilation is movement of air into and out of the lungs.
 - None of the above
10. The right lung has two lobes whereas the left lung has three lobes.
- True
 - False
11. Development of myelin sheath in peripheral nervous system depends on
- Astrocytes
 - Microglia
 - Oligodendrocytes
 - Schwann cells
12. Non myelinated fiber differ from myelinated once in that they
- Lack nodes of ranvier
 - Are more excitable
 - Have higher conduction velocity
 - Are not associated with schwann cell
13. The following are renal tubules within the nephron except
- Proximal convoluted tubule
 - Glomerulus
 - Loop of henle
 - Distal convoluted tubule
14. The heart wall is made up of the following layers except
- Epicardium
 - Myocardium
 - Dicardium
 - Endocardium
15. All the following makes up the walls of the gastrointestinal tract from the lower esophagus to the anal canal except
- Mucosa
 - Sub mucosa
 - Muscularis
 - Serosa
 - None of the above
16. Chemically, antibodies are immunoglobulin's found in the gamaglobulin class of plasma protein. Since antibodies have their own unique shape, they include the following except
- Immunoglobulin A
 - Immunoglobulin G
 - Immunoglobulin H
 - Immunoglobulin D

17. The following are the functions of the blood except
- Regulation of body temperature
 - Communication
 - Transport of nutrients and gases
 - Protection against infection
 - None of the above
18. When the smooth endoplasmic reticulums are found in cells that do not synthesis lipids and steroids, they are used in detoxification of harmful drugs.
- True
 - False
 - None of the above
19. The eukaryotic cells have no nucleus whereas prokaryotic cells have a nucleus
- True
 - False
20. The body's fundamental tissues include the following except
- Epithelial tissues
 - Connective tissues
 - Muscle tissues
 - Nervous tissues
 - None of the above

Section B: Sort Essay Questions

- Describe the difference between the smooth and the rough endoplasmic reticulum (5 marks)
- Differentiate between the afferent and the efferent neurons (5 Marks)
- With an illustration of a diagram, draw and describe the functions of mitochondria. (10 Marks)
- Describe the characteristics of life (15 marks).

Section C Long essay question

- Using a diagram, draw and label the structure and functional parts of a neuron (20 Marks)
- With an illustration of a nephron, describe the four steps in which the kidney produces urine (20 Marks)