## Course Information

**Qualification:** Bachelor of Environmental Health Sciences

**Qualification Code:** 08BEHS/08BHIS

**Level:** 5

**Course:** Anatomy and Physiology

**Course Code:** AAP511S

**Date:** July 2016

**Duration:** 3 Hours

**Session:** Semester 1, 2016

**Marks:** 100

**Examiner:** Mr. Ferdinand Nsengimana

**Moderator:** Ms. Elizabeth Van Der Colf

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**Instructions**

1. Answer ALL the questions.
2. Write clearly and neatly.
3. Number the answers clearly.

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**This Question Paper Consists of Four Pages**

(Including this front page)
Questions 1

Match the descriptions or statements in column A with the corresponding concept in column B. On your answer book, only write down the number in column A and the corresponding letter in column B.

<table>
<thead>
<tr>
<th>Column A</th>
<th>Column B</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td>The study of the functions of the human body parts</td>
</tr>
<tr>
<td>1.2</td>
<td>One of the largest organs of the body in surface and weight</td>
</tr>
<tr>
<td>1.3</td>
<td>The phase during which the energy is used to build the body’s structural and functional components</td>
</tr>
<tr>
<td>1.4</td>
<td>A condition in which the body’s internal environment remains within certain physiological limits</td>
</tr>
<tr>
<td>1.5</td>
<td>A plane that divides the body or organ into anterior and posterior portions</td>
</tr>
<tr>
<td>1.6</td>
<td>The basic, living, structural, and functional unit of the body</td>
</tr>
<tr>
<td>1.7</td>
<td>A condition that results from the inability of an individual from any race to produce melanin</td>
</tr>
<tr>
<td>1.8</td>
<td>The longest, heaviest, and strongest bone in the body</td>
</tr>
<tr>
<td>1.9</td>
<td>The movement through the smallest blood vessels in the body during which needed materials are provided to tissues and cells, and wastes are removed</td>
</tr>
<tr>
<td>1.10</td>
<td>A freely movable joint</td>
</tr>
<tr>
<td>1.11</td>
<td>The outer, limiting membrane that separates the cell’s internal components from the extracellular materials and the external environment</td>
</tr>
<tr>
<td>1.12</td>
<td>The most abundant and mostly distributed tissue in the body</td>
</tr>
<tr>
<td>1.13</td>
<td>The structure that divides the ventral body cavity into the thoracic and abdominopelvic cavities and plays an important role for breathing</td>
</tr>
<tr>
<td>1.14</td>
<td></td>
</tr>
</tbody>
</table>
QUESTION 2

Choose the correct answer. On your answer sheet, write down the number and the letter(s) representing the correct answer(s).

2.1. Unites the frontal bone and two parietal bones
   A. Frontal bone
   B. Parietal bone
   C. Coronal suture
   D. Lambdoid suture

2.2. Unites two parietal bones
   A. Frontal bone
   B. Occipital bone
   C. Squamous suture
   D. Sagittal suture

2.3. Unites the parietal bones and occipital bones
   A. Fontanels
   B. Parietal bone
   C. Coronal suture
   D. None of the above

2.4. Which of the following bones of the skull are movable bones?
   A. Frontal bone, nasal bones, and zygomatic bones.
   B. Auditory ossicles and frontal bone
   C. Occipital bone, ethmoid bone and mandible
   D. All the bones of the skull are movable
   E. None of the bones of the skull is movable

2.5. The largest and strongest facial bone is:
   A. Mandible
   B. Parietal bone
   C. Temporal bone
   D. All of the above
   E. None of the above

2.6. Which of the adult vertebrae are movable?
   A. Cervical, lumbar, and sacral
   B. Cervical, thoracic and lumbar
   C. Thoracic, lumbar, and coccyx
   D. Coccyx, sacral, and lumbar
   E. All adult vertebrae are movable
QUESTION 3

Indicate whether the following statements are true or false. On your answer sheet, write down the number followed by TRUE if the statement is correct or FALSE if the statement is incorrect.

3.1. The term thorax refers to the entire chest.

3.2. The skeletal portion of the thorax is a bony cage formed by the sternum, costal cartilages, ribs, and the bodies of the thoracic vertebrae.

3.3. The thoracic cage is broader at its superior end and narrower at its inferior end.

3.4. The thoracic cage encloses and protects the organs in the thoracic cavity but does not enclose and protect the organs in the upper abdominal cavity.

3.5. The pectoral girdles articulate with the vertebral column.

3.6. The looser the fit, the greater the movement and the higher the risk of dislocation.

3.7. Like any other bone, the hyoid bone does articulate with some other bones.

QUESTION 4

4.1. Identify the four principal parts of the brain and the components of each, where applicable.

4.2. List, by number and name, any five cranial nerves. For each listed cranial nerve, mention one (1) function and indicate whether this nerve is a motor, sensory or mixed nerve.

QUESTION 5

5.1. To minimize some complications related to blood transfusion, especially among females before and during their reproductive age, some measures are considered. Based on your theoretical knowledge on the ABO and Rhesus (Rh) Blood Grouping, complete the following table. Copy Table 5.1 to your answer sheet and clearly indicate all the specific blood types where appropriate.

Table 5.1: ABO and Rhesus Blood Grouping, donor, and recipient

<table>
<thead>
<tr>
<th>Blood Group</th>
<th>Can donate to</th>
<th>Can receive from</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 Rh-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AB Rh +</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B Rh -</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A Rh+</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

5.2. Clearly explain with examples each of the four types of immunity.

TOTAL MARKS = 100