

Examination Questions and Answers in Basic Anatomy and Physiology

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2000 Multiple Choice Questions



Springer

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Preface

Two thousand multiple choice questions that could be asked of a student of introductory human anatomy and physiology are presented in 40 categories. It is assumed that users of these questions are teachers or students who have completed at least part of an anatomy and physiology course that might be offered in the first year of a university degree programme. It is also assumed that they would have access to one of the anatomy and physiology textbooks (or similar) listed in the bibliography below. Each category has an Introduction containing a summary of useful knowledge pertinent to that category of question. However not all possible information is provided within these Introductions, so a textbook is indispensable. The summary Introductions are composed with vocabulary that may be unfamiliar to the beginning student but which should be known in order to understand the questions. You will need to look up the meaning of many unfamiliar words as your studies progress.

All questions have been used at least once, during the author's teaching career, in end of semester examinations of a university first year undergraduate introductory anatomy and physiology course or a physical science course for health science students to support their anatomy and physiology study. Consequently they reflect the author's choice of content. Students enrolled in the courses for which these questions were written include nursing, midwifery, paramedic, physiotherapy, occupational therapy, nutrition and dietetics, health science students, exercise science students and students taking the course as an elective. Often, the students did not have an extensive background in science from their secondary schooling. Some knowledge of physical science is required to understand physiology; hence, physical science questions are included. Students without some background knowledge in chemistry and physics will find such questions challenging and will need to work a little harder to develop their background knowledge. The boundary between chemistry and biochemistry is not distinct; nevertheless, chemistry is implicit in physiology. Furthermore, the physics of the body becomes physiology so gradually that sometimes the boundary between the two is only noticed after it has been crossed.

Some questions were difficult to categorise and may span two (or more) categories. Furthermore, in order to answer some questions, you may need knowledge drawn from other "sections" of anatomy different from the name of the section in

which the question appears. This is not a bad thing as it emphasises the connected nature of human anatomy and physiology. Each question is unique (there are no duplicates). However, many questions will be examining the same (or similar) material albeit with a differently worded question or different choice of answers. If the questions are to be used to compile an examination, then care should be taken to exclude questions that are too similar to already selected ones. On the other hand, if the questions are to be used for instruction or study purposes, I would suggest including several similar questions in consecutive order to emphasise the point and to give the student practice.

Advice to the Exam Candidate

The correct choice of answer for each question is provided. Accompanying the correct choice is a justification for the choice or an explanation of the correct answer and sometimes of why the other choices are incorrect. The degree of difficulty varies, but not by intentional design. The perception of difficulty depends on that part of science that the question examines, the level of scientific background brought to the course by the student and their level of studious preparation for the examination.

There is only one best correct answer for each of the multiple choice questions among the four choices presented. However, there may be more than one correct answer. You must choose the **best** one. In an examination, never leave a question unanswered. If you cannot decide on an answer, guess at it (after eliminating any choices that you deem to be incorrect). That is, you will be rewarded for the ability to decrease the number of choices from which you are guessing, from 4 to 3 or 2. In marking multiple choice questions, I suggest that that one mark be allocated for a correct answer and that a quarter of a mark be deducted for a wrong answer or an unanswered question. Deducting a quarter mark will reduce the score that would be gained by selecting an answer from the four choices purely at random (i.e. guessing), from about 25 % to about 6 %. Not to deduct a quarter mark is, in my opinion, unsound.

Be aware of questions that are asked in the negative. That is, those that have NOT true; or FALSE; or INCORRECT; or EXCEPT one, in the stem. In this case you are seeking a statement that is wrong in order to answer the question. Do not be intimidated by arithmetical calculations. The calculation itself will be simple. Deciding what to add, multiply or divide with what, is the tricky part.

Some questions have been paraphrased from those published in the third edition of the book *Human Science: Matter and Energy in the Human Body* (Caon, M., & Hickman, R. (2003), Crawford House Australia Publishing, Belair South Australia), and are used with the authors' permission.

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