# HESI A2®

# Admission Assessment Study Guide

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Complete Test Preparation is committed to providing students with the best study materials and practice tests available on the market. Members of our team combine years of teaching experience, with experienced writers and editors, all with advanced degrees.

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# Getting Started

Congratulations! By deciding to take the Health Education Systems (HESI® A2) Exam, you have taken the first step toward a great future! Of course, there is no point in taking this important examination unless you intend to do your best to earn the highest grade you possibly can. That means getting yourself organized and discovering the best approaches, methods and strategies to master the material. Yes, that will require real effort and dedication on your part, but if you are willing to focus your energy and devote the study time necessary, before you know it you will be opening that letter of acceptance to the school of your dreams.

We know that taking on a new endeavour can be scary, and it is easy to feel unsure of where to begin. That's where we come in. This study guide is designed to help you improve your test-taking skills, show you a few tricks of the trade and increase both your competency and confidence.

# The Health Education Systems A2® Exam

The HESI® A2 exam is composed of modules and not all schools use all the modules. It is therefore very important that you find out what modules your school will use! That way you won't waste valuable study time learning something that isn't on your exam!

The HESI® A2 Modules are: Mathematics, Vocabulary, Reading Comprehension, English grammar, and a Science module which includes, Biology, Chemistry, Physics, Basic Scientific principle and Anatomy and Physiology.

You don't have to worry because these sections are included in this study guide. However, to maximize your study time, it is very important to check which modules your university offers before studying everything under the sun!

While we seek to make our guide as comprehensive as possible, note that like all entrance exams, the HESI® A2 Exam might be adjusted at some future point. New material might be added, or content that is no longer relevant or applicable might be removed. It is always a good idea to give the materials you receive when you register to take the HESI® a careful review.

# How this study guide is organized

This study guide is divided into three sections. The first section, Self-Assessments, which will help you recognize your areas of strength and weaknesses. This will be a

boon when it managing your study time most efficiently; there is not much point of focusing on material you already have firmly under control. Instead, taking the self-assessments will show you where that time could be much better spent. In this area you will begin with a few questions to evaluate quickly your understanding of material that is likely to appear on the HESI®. If you do poorly in certain areas, simply work carefully through the tutorials and then try the self-assessment again.

The second section, Tutorials, offers information in each of the content areas, as well as tactics to help you master that material. The tutorials are not intended to be a complete course, but cover general principles. If you find that you do not understand the tutorials, it is recommended that you seek out additional instruction. Note most Universities recommend students take introductory courses in Math, English and Science before taking the HESI®.

Third, we offer two sets of practice test questions, similar to those on the HESI® V Exam. Again, we cover all modules, so make sure to check with your school!

# The HESI® Study Plan

Now that you have made the decision to take the HESI, it's time to get started. Before you do another thing, you will need to figure out a plan of attack. The very best study tip is to start early! The longer the time period you devote to regular study practice, the more likely you will retain the material and be able to reach it quickly. If you thought that 1x20 is the same as 2x10, guess what? It really is not, when it comes to study time. Reviewing material for just an hour per day over the course of 20 days is far better than studying for two hours a day for only 10 days. The more often you revisit a particular piece of information, the better you will know it. Not only will your grasp and understanding be better, but your ability to reach into your brain and quickly and efficiently pull out the tidbit you need, will be greatly enhanced as well.

The great Chinese scholar and philosopher Confucius believed that true knowledge could be defined as knowing what you know and what you do not know. The first step in preparing for the HESI® Exam is to assess your strengths and weaknesses. You may already have an idea of what you know and what you do not know, but evaluating yourself using our Self-Assessment modules for each of the three areas, math, English science and reading, will clarify the details.

### Making a Study Schedule

To make your study time the most productive, you will need to develop a study plan. The purpose of the plan is to organize all the bits of pieces of information in such a way that you will not feel overwhelmed. Rome was not built in a day, and learning everything you will need to know to pass the HESI® Exam is going to take time, too. Arranging the material you need to learn into manageable chunks is the best way to go. Each study session should make you feel as though you have accomplished your goal, and your goal is simply to learn what you planned to learn during that particular session. Try to organize the content in such a way that each study session builds on previous

ones. That way, you will retain the information, be better able to reach it, and review the previous bits and pieces at the same time.

## Self-assessment

**The Best Study Tip!** The very best study tip is to start early! The longer you study regularly, the more you will retain and 'learn' the material. Studying for 1 hour per day for 20 days is far better than studying for 2 hours for 10 days.

# What don't you know?

The first step is to assess your strengths and weaknesses. You may already have an idea of where your weaknesses are, or you can take our Self-assessment modules for each of the areas, math, English, science and reading.

Below is a table to assess your exam readiness in each content area. You can fill this in now, and correct if necessary after completing the self-assessments, or fill it in after you have taken the self-assessments.

## Self-assessment

**The Best Study Tip!** The very best study tip is to start early! The longer you study regularly, the more you will retain and 'learn' the material. Studying for 1 hour per day for 20 days is far better than studying for 2 hours for 10 days.

#### What don't you know?

The first step is to assess your strengths and weaknesses. You may already have an idea of where your weaknesses are, or you can take our Self-assessment modules for each of the areas, Math, English, Science and Reading Comprehension.

Rate from 1 to 5

Decimals	
Percent	
Word Problems	
Basic Algebra	
Science	
Anatomy and Physiology	
Biology	
Chemistry	

# Making a Study Schedule

The key to making a study plan is to divide the material you need to learn into manageable size and learn it, while at the same time reviewing the material that you already know.

Using the table above, any scores of 3 or below, you need to spend time learning, reviewing and practicing this subject area. A score of 4 means you need to review the material, but you don't have to spend time re-learning. A score of 5 and you are OK with just an occasional review before the exam.

A score of 0 or 1 means you really need to work on this area and should allocate the most time and the highest priority. Some students prefer a 5-day plan and others a 10-day plan. It also depends on how much time you have until the exam.

Here is an example of a 5-day plan based on an example from the table above:

Fractions: 1 Study 1 hour everyday – review on last day

Biology: 3 Study 1 hour for 2 days then ½ hour a day, then review

Vocabulary: 4 Review every second day

Word Problems: 2 Study 1 hour on the first day – then ½ hour everyday

Reading Comprehension: 5 Review for ½ hour every other day

Algebra: 5 Review for ½ hour every other day Chemistry: 5 very confident – review a few times.

Using this example, Chemistry and Grammar are good, and only need occasional review. Biology is also good and needs 'some' review. Decimals need a bit of work, Word Problems need a lot of work and Fractions are very weak and need most time. Based on this, here is a sample study plan:

Day	Subject	Time
Monday		
Study	Fractions	1 hour
Study	Word Problems	1 hour
<u> </u>	½ hour break	
Study	Biology	1 hour
Review	Chemistry	½ hour
Tuesday		
Study	Fractions	1 hour
Study	Word Problems	½ hour
	⅓ hour break	
Study	Decimals	½ hour
Review	Vocabulary	½ hour
Review	Grammar	½ hour
Wednesday		
Study	Fractions	1 hour
Study	Word Problems	½ hour
	½ hour break	
Study	Biology	½ hour
Review	Chemistry	½ hour
Thursday		
Study	Fractions	½ hour
Study	Word Problems	½ hour
Review	Biology	½ hour
	⅓ hour break	
Review	Grammar	½ hour
Review	Vocabulary	½ hour
Friday		
Review	Fractions	½ hour
Review	Word Problems	½ hour
Review	Biology	½ hour
	½ hour break	
Review	Vocabulary	½ hour
Review	Grammar	½ hour

# Reading Comprehension

This section contains a self-assessment and reading tutorial. The Tutorials are designed to familiarize general principles and the self-assessment contains general questions similar to the reading questions likely to be on the HESI® exam, but are not intended to be identical to the exam questions. Many Universities recommend students take an introductory courses before taking the HESI® Exam. The tutorials are not designed to be a complete reading course, and it is assumed that students have some familiarity with reading comprehension questions. If you do not understand parts of the tutorial, or find the tutorial difficult, it is recommended that you seek out additional instruction.

# Tour of the HESI® Reading Content

The HESI® reading section has 47 questions that must be answered in 60 minutes. Below is a detailed list of the types of reading questions that generally appear on the HESI®. Make sure you understand all these points at a very minimum.

- · Drawing logical conclusions
- · Identifying main ideas
- Meaning in context
- Distinguish fact from opinions
- Making inferences
- Identifying tone and purpose
- Summarizing

The questions below are not the same as you will find on the HESI® - that would be too easy! And nobody knows what the questions will be and they change all the time. Mostly the changes consist of substituting new questions for old, but the changes can be new question formats or styles, changes to the number of questions in each section, changes to the time limits for each section and combining sections. Below are general reading questions that cover the same areas as the HESI®. While the format and exact wording of the questions may differ slightly, and change from year to year, if you can answer the questions below, you will have no problem with the reading section of the HESI®.

# **Reading Self-Assessment**

The purpose of the self-assessment is:

- · Identify your strengths and weaknesses.
- Develop your personalized study plan (above)
- Get accustomed to the HESI® format
- Extra practice the self-assessments are almost a full 3<sup>rd</sup> practice test!
- Provide a baseline score for preparing your study schedule.

Since this is a Self-assessment, and depending on how confident you are with Reading Comprehension, timing is optional. The HESI® has 47 reading questions. The self-assessment has 15 questions, so allow about 15 minutes to complete this assessment.

Once complete, use the table below to assess your understanding of the content, and prepare your study schedule described in chapter 1.

80% - 100%	Excellent – you have mastered the content
60 – 79%	Good. You have a working knowledge. Even though you can just pass this section, you may want to review the tutorials and do some extra practice to see if you can improve your mark.
40% - 59%	Below Average. You do not understand the reading comprehension problems.  Review the tutorials, and retake this quiz again in a few days, before proceeding to the rest of the study guide.
Less than 40%	Poor. You have a very limited understanding of the reading comprehension problems.  Please review the tutorials, and retake this quiz again in a few days, before proceeding to the rest of the study guide.

# Reading Comprehension Self-Assessment Answer Sheet

	Α	В	С	D
1	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
2	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
3	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
4	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
5	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
6	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
7	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
8	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
9	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
10	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
11	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
12	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
13	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
14	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
15	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
16	0	0	$\bigcirc$	$\bigcirc$

Directions: The following questions are based on several reading passages. A series of questions follow each passage. Read each passage carefully, and then answer the questions based on it. You may reread the passage as often as you wish. When you have finished answering the questions based on one passage, go right onto the next passage. Choose the best answer based on the information given and implied.

Questions 1 - 4 refer to the following passage.

### Passage 1 - Who Was Anne Frank?

You may have heard mention of the word Holocaust in your History or English classes. The Holocaust took place from 1939-1945. It was an attempt by the Nazi party to purify the human race, by eliminating Jews, Gypsies, Catholics, homosexuals and others they deemed inferior to their "perfect" Aryan race. The Nazis used Concentration Camps, which were sometimes used as Death Camps, to exterminate the people they held in the camps. The saddest fact about the Holocaust was the over one million children under the age of sixteen died in a Nazi concentration camp. Just a few weeks before World War II was over, Anne Frank was one of those children to die.

Before the Nazi party began its persecution of the Jews, Anne Frank had a happy live. She was born in June of 1929. In June of 1942, for her 13th birthday, she was given a simple present which would go onto impact the lives of millions of people around the world. That gift was a small red diary that she called Kitty. This diary was to become Anne's most treasured possession when she and her family hid from the Nazi's in a secret annex above her father's office building in Amsterdam.

For 25 months, Anne, her sister Margot, her parents, another family, and an elderly Jewish dentist hid from the Nazis in this tiny annex. They were never permitted to go outside and their food and supplies were brought to them by Miep Gies and her husband, who did not believe in the Nazi persecution of the Jews. It was a very difficult life for young Anne and she used Kitty as an outlet to describe her life in hiding. After 2 years, Anne and her family were betrayed and arrested by the Nazis. To this day, nobody is exactly sure who betrayed the Frank family and the other annex residents. Anne, her mother, and her sister were separated from Otto Frank, Anne's father. Then, Anne and Margot were separated from their mother. In March of 1945, Margot Frank died of starvation in a Concentration Camp. A few days later, at the age of 15, Anne Frank died of typhus. Of all the people who hid in the Annex, only Otto Frank survived the Holocaust.

Otto Frank returned to the Annex after World War II. It was there that he found Kitty, filled with Anne's thoughts and feelings about being a persecuted Jewish girl. Otto Frank had Anne's diary published in 1947 and it has remained continuously in print ever since. Today, the diary has been published in over 55 languages and more than 24 million copies have been sold around the world. The Diary of Anne Frank tells the story of a brave young woman who tried to see the good in all people.

# 1. From the context clues in the passage, the word Annex most nearly means?

- a. Attic
- b. Bedroom
- c. Basement
- d. Kitchen

## 2. Why do you think Anne's diary has been published in 55 languages?

- a. So everyone could understand it.
- b. So people around the world could learn more about the horrors of the Holocaust.
- c. Because Anne was Jewish but hid in Amsterdam and died in Germany.
- d. Because Otto Frank spoke many languages.

# 3. From the description of Anne and Margot's deaths in the passage, what can we assume typhus is?

- a. The same as starving to death.
- b. An infection the Germans gave to Anne.
- c. A disease Anne caught in the concentration camp.
- d. Poison gas used by the Germans to kill Anne.

#### 4. In the third paragraph, what does the word outlet most nearly mean?

- a. A place to plug things into the wall
- b. A store where Miep bought cheap supplies for the Frank family
- c. A hiding space similar to an Annex
- d. A place where Anne could express her private thoughts.

# **Answer Key**

#### 1. A

We know that an annex is like an attic because the text states the annex was above Otto Frank's building.

Choice B is incorrect because an office building doesn't have bedrooms. Choice C is incorrect because a basement would be below the office building. Choice D is incorrect because there would not be a kitchen in an office building.

#### 2. B

The diary has been published in 55 languages so people all over the world can learn about Anne. That is why the passage says it has been continuously in print.

Choice A is incorrect because it is too vague. Choice C is incorrect because it was published after Anne died and she did not write in all three languages. Choice D is incorrect because the passage does not give us any information about what languages Otto Frank spoke.

#### 3. C

Use the process of elimination to figure this out.

Choice A cannot be the correct answer because otherwise the passage would have simply said that Anne and Margot both died of starvation. Choices B and D cannot be correct because if the Germans had done something specifically to murder Anne, the passage would have stated that directly. By the process of elimination, choice C has to be the correct answer.

#### 4. D

We can figure this out using context clues. The paragraph is talking about Anne's diary and so, outlet in this instance is a place where Anne can pour her feelings.

Choice A is incorrect answer. That is the literal meaning of the word outlet and the passage is using the figurative meaning. Choice B is incorrect because that is the secondary literal meaning of the word outlet, as in an outlet mall. Again, we are looking for figurative meaning. Choice C is incorrect because there are no clues in the text to support that answer.

# **Mathematics**

This section contains a self-assessment and math tutorials. The Tutorials are designed to familiarize general principles and the self-assessment contains general questions similar to the reading questions likely to be on the HESI® exam, but are not intended to be identical to the exam questions. Many Universities recommend students take an introductory courses before taking the HESI® Exam. The tutorials are not designed to be a complete mathematics course, and it is assumed that students have some familiarity with math questions. If you do not understand parts of the tutorial, or find the tutorial difficult, it is recommended that you seek out additional instruction.

## **Tour of the HESI Mathematics Content**

The HESI® reading section has 50 questions. Below is a detailed list of the types of math questions that generally appear on the HESI®. Make sure you understand all these points at a very minimum.

- · Basic operations adding subtracting, multiplying and dividing whole numbers
- Roman numerals
- Metric and other conversion
- Ratio and proportion
- Fractions, decimals and percent

The questions below are not the same as you will find on the HESI® - that would be too easy! And nobody knows what the questions will be and they change all the time. Mostly the changes consist of substituting new questions for old, but the changes can be new question formats or styles, changes to the number of questions in each section, changes to the time limits for each section and combining sections. Below are general math questions that cover the same areas as the HESI®. While the format and exact wording of the questions may differ slightly, and change from year to year, if you can answer the questions below, you will have no problem with the math section of the HESI®.

Mathematics 27

# Math Self-Assessment

The purpose of the self-assessment is:

- Identify your strengths and weaknesses.
- Develop your personalized study plan (above)
- Get accustomed to the HESI® format
- Extra practice the self-assessments are almost a full 3<sup>rd</sup> practice test!
- Provide a baseline score for preparing your study schedule.

Since this is a Self-assessment, and depending on how confident you are with math, timing is optional. The HESI® has 50 reading questions to be answered in 50 minutes. The self-assessment has 50 questions, so allow 50 minutes to complete this assessment.

Once complete, use the table below to assess your understanding of the content, and prepare your study schedule described in chapter 1.

80% - 100%	Excellent – you have mastered the content
60 – 79%	Good. You have a working knowledge. Even though you can just pass this section, you may want to review the tutorials and do some extra practice to see if you can improve your mark.
40% - 59%	Below Average. You do not understand the math problems. Review the tutorials, and retake this quiz again in a few days, before proceeding to the rest of the Practice Test.
Less than 40%	Poor. You have a very limited understanding of math. Please review the tutorials, and retake this quiz again in a few days, before proceeding to the rest of the study guide.

# **Math Self-Assessment Answer Sheet**

1. (A) (B) (C) (D)	18. (A) (B) (C) (D)	35. (A) (B) (C) (D)
2. (A) (B) (C) (D)	19. (A) (B) (C) (D)	<b>36.</b> (A) (B) (C) (D)
3. (A) (B) (C) (D)	<b>20.</b> (A) (B) (C) (D)	37. (A) (B) (C) (D)
<b>4.</b> (A) (B) (C) (D)	<b>21.</b> (A) (B) (C) (D)	<b>38.</b> (A) (B) (C) (D)
5. A B C D	<b>22.</b> (A) (B) (C) (D)	<b>39</b> . (A) (B) (C) (D)
6. A B C D	23. (A) (B) (C) (D)	<b>40</b> . A B C D
7. (A) (B) (C) (D)	<b>24.</b> (A) (B) (C) (D)	<b>41</b> . (A) (B) (C) (D)
8. A B C D	25. (A) (B) (C) (D)	<b>42</b> . (A) (B) (C) (D)
9. A B C D	<b>26.</b> (A) (B) (C) (D)	<b>43</b> . (A) (B) (C) (D)
10. A B C D	27. (A) (B) (C) (D)	<b>44</b> . (A) (B) (C) (D)
11. (A) (B) (C) (D)	28. (A) (B) (C) (D)	<b>45</b> . A B C D
12. A B C D	29. (A) (B) (C) (D)	<b>46</b> . (A) (B) (C) (D)
13. A B C D	<b>30</b> . (A) (B) (C) (D)	47. (A) (B) (C) (D)
14. (A) (B) (C) (D)	31. (A) (B) (C) (D)	<b>48</b> . A B C D
<b>15.</b> A B C D	32. (A) (B) (C) (D)	<b>49</b> . A B C D
<b>16.</b> (A) (B) (C) (D)	33. (A) (B) (C) (D)	<b>50</b> . A B C D
17. A B C D	<b>34.</b> (A) (B) (C) (D)	

# **Basic Math**

# 1. 389 + 454 =

- a. 853
- b. 833
- c. 843
- d. 863

# 2. 9,177 + 7,204 =

- a. 16,4712
- b. 16,371
- c. 16,381
- d. 15,412

# 3. 2,199 + 5,832 =

- a. 8,331
- b. 8,041
- c. 8,141
- d. 8,031

# 4. 8,390 - 5,239 =

- a. 3,261
- b. 3,151
- c. 3,161
- d. 3,101

#### 5. 643 - 587 =

- a. 56
- b. 66
- c. 46
- d. 55

# 6. 3,406 - 2,767 =

- a. 629
- b. 720
- c. 639
- d. 649

### $7.149 \times 7 =$

- a. 1032
- b. 1043
- c. 1059
- d. 1063

#### $8.467 \times 41 =$

- a. 19,147
- b. 21,227
- c. 23,107
- d. 18,177

### $9.309 \times 17 =$

- a. 5,303
- b. 4,913
- c. 4,773
- d. 5,253

# 10. 491 ÷ 9 =

- a. 54 r5
- b. 56 r6
- c. 57 r5
- d. 51 r

# **Answer Key**

# **Basic Math**

1. C

2. C

$$9,177 + 7,204 = 16,381$$

3. D

4. B

5. A

6. C

$$3,406 - 2,767 = 639$$

7. E

$$149 \times 7 = 1043$$

8. A

$$467 \times 41 = 19,147$$

9 D

$$309 \times 17 = 5,253$$

10. A

$$491 \div 9 = 54 \text{ r5}$$

Here, you can see that 1 millimeter is equal to .039 inches and 1 inch equals 25.4 millimeters.

## Area

When measuring area the relation between metric and standard looks like this:

.0016 in <sup>2</sup>	1 square millimeter	1 square inch	645.2 mm <sup>2</sup>
10.764 ft <sup>2</sup>	1 square meter	1 square foot	.093 m <sup>2</sup>
.386 mi <sup>2</sup>	1 square kilometer	1 square mile	$2.59~\mathrm{km}^2$
2.47 ac	hectare	1 acre	.405 ha

# Volume

Similarly, when measuring volume the relation between metric and standard units looks like this:

3034 fl oz	1 milliliter	1 fluid ounce	29.57 ml
.0264 gal	1 liter	1 gallon	3.785 L
35.314 ft <sup>3</sup>	1 cubic meter	1 cubic foot	.028 m³

# **Weight and Mass**

When measuring weight and mass the relation between metric and standard units looks like this:

.035 oz	1 gram	1 ounce	28.35 g
2.202 lbs	1 kilogram	1 pound	.454 kg
1.103 T	1 metric ton	1 ton	.907 t

Note that in science, the metric units of grams and kilograms are always used to denote the mass of an object rather than its weight.

# **Temperature**

In predominantly metric countries the standard unit of temperature is degrees Celsius while in countries with only limited use of the metric system, such as the United States, degrees Fahrenheit is used. This chart shows the difference between Fahrenheit and Celsius:

0° Celsius	32° Fahrenheit
10° Celsius	50° Fahrenheit
20° Celsius	68° Fahrenheit
30° Celsius	86° Fahrenheit
40° Celsius	104° Fahrenheit
50° Celsius	122° Fahrenheit
60° Celsius	140° Fahrenheit
70° Celsius	158° Fahrenheit
80° Celsius	176° Fahrenheit
90° Celsius	194° Fahrenheit
100° Celsius	212° Fahrenheit

As you can see  $0^{\circ}$  C is freezing while  $32^{\circ}$  F is freezing. Similarity  $100^{\circ}$  C is boiling while the Fahrenheit system takes until  $212^{\circ}$  F. To convert from Celsius to Fahrenheit you need to multiply the temperature in Celsius by 1.8 and then add 32 to it. ( $x^{\circ}$  F = ( $y^{\circ}$  C\*1.8) + 32) To convert from Fahrenheit to Celsius you do the opposite. First subtract 32 from the temperature then divide by 1.8. ( $x^{\circ}$  C = ( $y^{\circ}$  -32) / 1.8)

# Fraction Tips, Tricks and Shortcuts

When you are writing an exam, time is precious, and anything you can do to answer questions faster, is a real advantage. Here are some ideas, shortcuts, tips and tricks that can speed up answering fraction problems.

Remember that a fraction is just a number which names a portion of something. For instance, instead of having a whole pie, a fraction says you have a part of a pie--such as a half of one or a fourth of one.

Two digits make up a fraction. The digit on top is known as the numerator. The digit on the bottom is known as the denominator. To remember which is which, just remember that "denominator" and "down" both start with a "d." And the "downstairs" number is the denominator. So for instance, in ½, the numerator is the 1 and the denominator (or "downstairs") number is the 2.

□ It's easy to add two fractions if they have the same denominator. Just add the digits on top and leave the bottom one the same: 1/10 + 6/10 = 7/10.
 □ It's the same with subtracting fractions with the same denominator: 7/10 - 6/10 = 1/10.
 □ Adding and subtracting fractions with different denominators is more compli-

# **How to Solve Word Problems**

Most students find math word problems difficult. Solving word problems is much easier if you have a systematic approach which we outline below.

Here is the biggest tip for studying word problems.

**Practice regularly and systematically.** Sounds simple and easy right? Yes it is, and yes it really does work.

Word problems are a way of thinking and require you to translate a real world problem into mathematical terms.

Some math instructors go so far as to say that learning how to think mathematically is the main reason for teaching word problems.

So what do we mean by practice regularly and systematically? Studying word problems and math in general requires a logical and mathematical frame of mind. The only way that you can get this is by practicing regularly, which means everyday.

It is critical that you practice word problems everyday for the 5 days before the exam as a bare minimum.

If you practice and miss a day, you have lost the mathematical frame of mind and the benefit of your previous practice is pretty much gone. Anyone who has done any number of math tests will agree – you have to practice everyday.

**Everything is important.** The other critical point about word problems is that all the information given in the problem has some purpose. There is no unnecessary information! Word problems are typically around 50 words in 1 to 3 sentences. If the sometimes complicated relationships are to be explained in that short an explanation, every word has to count. Make sure that you use every piece of information.

#### Here are 9 simple steps to solving word problems.

**Step 1** – Read through the problem at least three times. The first reading should be a quick scan, and the next two readings should be done slowly to answer these important questions:

What does the problem ask? (Usually located towards the end of the problem)

What does the problem imply? (This is usually a point you were asked to remember).

Mark all information, and underline all important words or phrases.

**Step 2** – Try to make a pictorial representation of the problem such as a circle and an arrow to show travel. This makes the problem a bit more real and sensible to you.

A favorite word problem is something like, 1 train leaves Station A traveling at 100 km/hr and another train leaves Station B traveling at 60 km/hr. ...

Draw a line, the two stations, and the two trains at either end. This will solidify the situation in your mind.

# English Grammar

This section contains an English self-assessment and English tutorials. The Tutorials are designed to familiarize general principles and the Self-Assessment contains general questions similar to the English questions likely to be on the HESI® exam, but are not intended to be identical to the exam questions. Many Universities recommend that students take an introductory English course before taking the HESI® Exam. The tutorials are not designed to be a complete English course, and it is assumed that students have some familiarity with English. If you do not understand parts of the tutorial, or find the tutorial difficult, it is recommended that you seek out additional instruction.

# Tour of the HESI® English Grammar Content

The HESI® English and Language Usage section has 50 questions. Below is a detailed list of the topics likely to appear on the HESI®. Make sure you understand these topics at the very minimum.

- · Subject-verb agreement
- Verb tense
- Proper usage of pronouns
- Punctuation
- English usage

The questions below are not the same as you will find on the HESI® - that would be too easy! And nobody knows what the questions will be and they change all the time. Mostly, the changes consist of substituting new questions for old, but the changes also can be new question formats or styles, changes to the number of questions in each section, changes to the time limits for each section, and combining sections. While the format and exact wording of the questions may differ slightly, and changes from year to year, if you can answer the questions below, you will have no problem with the English section of the HESI®.

# **English Grammar and Language Usage Self-Assessment**

The purpose of the self-assessment is:

- Identify your strengths and weaknesses.
- Develop your personalized study plan (above)
- Get accustomed to the HESI® format.
- Extra practice the self-assessment is a 3<sup>rd</sup> test!
- Provide a baseline score for preparing your study schedule.

Since this is a self-assessment, and depending on how confident you are with English Grammar, timing yourself is optional. The HESI® English and Language usage section has 50 questions which must be answered in 50 minutes. The self-assessment has 30 questions, so allow 30 minutes to complete this assessment.

Once complete, use the table below to assess your understanding of the content and prepare your study schedule described in chapter 1.

80% - 100%	Excellent – you have mastered the content
60 – 79%	Good. You have a working knowledge. Even though you can just pass this section, you may want to review the tutorials and do some extra practice to see if you can improve your mark.
Below Average. You do not understand English grammar questions.  40% - 59%  Review the tutorials, and retake this quiz again in a few days, be fore proceeding to the practice test questions.	
Less than 40%	Poor. You have a very limited understanding.  Please review the tutorials, and retake this quiz again in a few days, before proceeding to the practice test questions.

# **English Self-Assessment Answer Sheet**

<b>1</b> . A B C D	11. (A) (B) (C) (D)	21. (A) (B) (C) (D)
--------------------	---------------------	---------------------

Select the word that best fits the given sentence.

	He didn't realize how serious the crime was. It wasn't simply a misdemeanor trather a
	a. Felony
	b. Trespass
	c. Infraction
	d. None of the Above
2.	Choose the correct sentence.
	a. Does the sun set in the East or West?
	b. Does the sun set in the east or the west?
	c. Does the Sun set in the east or west?
	d. None of the Above
3.	Their new house is like a castle. I have never seen such a home.
	a. Palace
	b. Palatial
	c. Meagre
	d. Humble
	She never does anything like that, so I doubt that she will do it herself. I am re she will get one of her to do it.
	a. Superiors
	b. Acquaintances
	c. Underlings
	d. None of the Above
5.	He went to the store after school.
Wł	nat is the subject of this sentence?
	a. School
	b. Store
	c. He
	d. After

## Answer Key

#### 1. A

**Felony:** A serious criminal offense, which, under federal law, is punishable by death or imprisonment for a term exceeding one year.

#### 2. A

The cardinal directions, North, South East and West are capitalized. In general, the first letter is capitalized for well-defined regions, e.g. South America, Lower California, Tennessee Valley. This general rule also applies to zones of the Earth's surface (North Temperate Zone, the Equator). In other cases, do not capitalize the points of the compass (north China, south-east London) or other adjectives (western Arizona, central New Mexico, upper Yangtze, lower Rio Grande)

#### 3. B

Palatial: Of or relating to a palace.

#### 4. C

**Underlings:** A subordinate, or person of lesser rank or authority.

#### 5. C

'He' is the subject of the sentence.

# **English Tutorials**

# How to Answer English Grammar Multiple Choice - Verb Tense

This tutorial is designed to help you answer English Grammar multiple choice questions as well as a very quick refresher on verb tenses. It is assumed that you have some familiarity with the verb tenses covered here. If you find these questions difficulty or do not understand the tense construction, we recommend you seek out additional instruction.

# **Tenses Covered**

- 1. Past Progressive
- 2. Present Perfect
- 3. Present Perfect Progressive
- 4. Present Progressive
- 5. Simple Future
- 6. Simple Future "Going to" Form
- 7. Past Perfect Progressive
- 8. Future Perfect Progressive
- 9. Future Perfect
- 10. Future Progressive
- 11. Past Perfect

# 1. The Past Progressive Tense

## How to Recognize This Tense

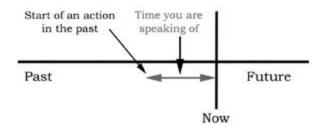
He was running very fast when he fell.

They were drinking coffee when he arrived.

### **About the Past Progressive Tense**

This tense is used to speak of an action that was in progress in the past when another event occurred.

The action was unfolding at a point in the past.



### **Past Progressive Tense Construction**

This tense is formed by using the past tense of the verb "to be" plus the present participle of the main verb.

#### Sample Question

Bill	lunch	when	We	arrived	
DIII	Tuncn	WIICII	wc	arriveu	

- a. will eat
- b. is eating
- c. eats
- d. was eating

#### How to Answer This Type of Question

#### 1. First examine the question for clues about the time frame.

The sentence ends with "when we arrived," so we know the time frame is a point ("when") in the past (arrived).

The correct answer will refer to an ongoing action at a point of time in the past.

# 2. Examine the choices and eliminate any obviously incorrect answers.

Choice A is the future tense so we can eliminate.

Choice B is the present continuous so we can eliminate.

Choice C is present tense so we can eliminate.

Choice D refers to an action that takes place at a point of time in the past ("was eat-

# 2. Examine the choices and eliminate any obviously incorrect answers.

Choice A is the future tense and can be eliminated. Choice B is the simple present and can be eliminated. Choice C is the past perfect and orders the two events in the past. Choice D is the present tense and incorrect and can be eliminated, so Choice C is the correct answer.

# Common English Usage Mistakes - A Quick Review

Like some parts of English grammar, usage is definitely going to be on the exam and there isn't any tricky strategies or shortcuts to help you get through this section. Here is a quick review of common usage mistakes.

# 1. May and Might

'May' can act as a principal verb, which can express permission or possibility.

## Examples:

Lets wait, the meeting may have started. May I begin now?

'May' can act as an auxiliary verb, which expresses a purpose or wish

## **Examples:**

May you find favour in the sight of your employer.

May your wishes come true.

People go to school so that they may be educated.

The past tense of may is might.

# Examples:

I asked if I might begin

'Might' signifies a weak or slim possibility or polite suggestion.

### **Examples:**

You might find him in his office, but I doubt it. You might offer to help if you want to.

# Vocabulary

THIS SECTION CONTAINS A VOCABULARY SELF-ASSESSMENT AND TUTORIAL. The Tutorial is designed to familiarize general principles and the Self-Assessment contains general questions similar to the Vocabulary questions likely to be on the HESI® exam, but are not intended to be identical to the exam questions.

The questions below are not the same as you will find on the HESI® - that would be too easy! And nobody knows what the questions will be and they change all the time. Mostly, the changes consist of substituting new questions for old, but the changes also can be new question formats or styles, changes to the number of questions in each section, changes to the time limits for each section, and combining sections. While the format and exact wording of the questions may differ slightly, and changes from year to year, if you can answer the questions below, you will have no problem with the vocabulary section of the HESI®.

# Vocabulary Self-Assessment

The purpose of the self-assessment is:

- Identify your strengths and weaknesses.
- Develop your personalized study plan (above)
- Get accustomed to the HESI® format
- Extra practice the self-assessment is a 3<sup>rd</sup> test!
- Provide a baseline score for preparing your study schedule.

Since this is a self-assessment, and depending on how confident you are with vocabulary, timing yourself is optional. The HESI® vocabulary section has 50 questions which must be answered in 50 minutes. The self-assessment has 25 questions, so allow 25 minutes to complete this assessment.

Once complete, use the table below to assess your understanding of the content and prepare your study schedule described in chapter 1.

80% - 100%	Excellent – you have mastered the content
60 – 79%	Good. You have a working knowledge. Even though you can just pass this section, you may want to review the tutorials and do some extra practice to see if you can improve your mark.
40% - 59%	Below Average. You do not understand the vocabulary content.  Review the tutorials, and retake this quiz again in a few days, before proceeding to the practice test questions.
Less than 40%	Poor. You have a very limited understanding.  Please review the tutorials, and retake this quiz again in a few days, before proceeding to the practice test questions.

# **Answer Sheet**

1.	ABCD	<b>11.</b> (A) (B) (C) (D)	21. (A) (B) (C) (D)
• •	('')('')('')		

- 6. A B C D 16. A B C D
- 7. (A) (B) (C) (D) 17. (A) (B) (C) (D)
- 8. A B C D 18. A B C D
- 9. A B C D 19. A B C D
- 10. (A) (B) (C) (D) 20. (A) (B) (C) (D)

1. Choose the noun that means, self evident or clear obvious truth.
a. Truism
b. Catharsis
c. Libertine
d. Tractable
2. Choose the best definition for: virago
a. A loud domineering woman
b. A quiet woman
c. A load domineering Man
d. A quiet man
3. When Joe broke his in a skiing accident, his entire leg was in a cast.
a. Ankle
b. Humerus
c. Wrist
d. Femur
4. Select another word for the underlined word in the sentence below.
At first I thought she was very rude and boorish, but when I talked to her again she was very genteel.
a. Chivalrous
b. Hilarious
c. Civilized
d. Governance
5. Choose an adjective that means corrupted, impure.
a. Adulterate
b. Harbor
c. Infuriate
d. Inculcate

# **Answer Key**

### 1. A

Truism: n. self evident or clear obvious truth.

#### 2. A

**Virago:** Given to undue belligerence or ill manner at the slightest provocation; a shrew, a termagant.

#### D

**Femur:** n. The bone of the thigh or upper hind limb, articulating at the hip and the knee.

## 4. C

Genteel: Polite and well-mannered. Stylish or elegant. Aristocratic

### 5. A

**Adulterate:** v. To render (something) poorer in quality by adding another substance, typically an inferior one.

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# Help with Building your Vocabulary

Vocabulary tests can be daunting when you think of the enormous number of words that might come up in the exam. As the exam date draws near, your anxiety will grow because you know that, no matter how many words you memorize, chances are, you will still remember so few. Here are some tips which you can use to hurdle the big words that may come up in your exam without having to open the dictionary and memorize all the words known to humankind.

Build up and tear apart the big words. Big words, like many other things, are composed of small parts. Some words are made up of many other words. A man who lifts weights for example, is a weight lifter. Words are also made up of word parts called prefixes, suffixes and roots. Often times, we can see the relationship of different words through these parts. A person who is skilled with both hands is ambidextrous. A word with double meaning is ambiguous. A person with two conflicting emotions is ambivalent. Two words with synonymous meanings often have the same root. Bio, a root word derived from Latin is used in words like biography meaning to write about a person's life, and biology meaning the study of living organisms.

- **Words with double meanings.** Did you know that the word husband not only means a man married to a woman, but also thrift or frugality? Sometimes, words have double meanings. The dictionary meaning, or the denotation of a word is sometimes different from the way we use it or its connotation.
- Read widely, read deeply and read daily. The best way to expand your vocabulary is to familiarize yourself with as many words as possible through reading. By reading, you are able to remember words in a proper context and thus, remember its meaning or at the very least, its use. Reading widely would help you get acquainted with words you may never use every day. This is the best strategy without doubt. However, if you are studying for an exam next week, or even tomorrow, it isn't much help! Below you will find a range of different ways to learn new words quickly and efficiently.
- **Remember.** Always remember the big words are easy to understand when divided into smaller parts, and the smaller words will often have several other meanings aside from the one you already know. Here are suggested effective ways to help you improve your vocabulary.
- **Be Committed To Learning New Words**. To improve your vocabulary you need to make a commitment to learn new words. Commit to learning at least a word or two a day. You can also get new words by reading books, poems, stories, plays and magazines. Expose yourself to more language to increase the number of new words that you learn.
  - Learn Practical Vocabulary. As much as possible, learn vocabulary that is associated with what you do and that you can use regularly. For example, learn words related to your profession or hobby. Learn as much vocabulary as you can in your favorite subjects.

# Science

his section contains a science self-assessment and tutorials. The Tutorials are designed to familiarize general principles and the self-assessment contains general questions similar to the science questions likely to be on the HESI® exam, but are not intended to be identical to the exam questions. Many Universities recommend that students take an introductory Science course before taking the HESI® Exam. The tutorials are *not* designed to be a complete science course, and it is assumed that students have some familiarity with Science. If you do not understand parts of the tutorial, or find the tutorial difficult, it is recommended that you seek out additional instruction.

# Tour of the HESI Science Content

The HESI® science section currently has 100 science questions which cover Biology, Chemistry, Anatomy and Physiology and Physics. The Physics component is currently being tested and is not given at all institutions. Be sure to check with your school for the exact content of the HESI® you will be taking. Below is a detailed list of the science topics likely to appear on the HESI®. Anatomy and Physiology questions are reviewed in detail in the next chapter. Make sure that you understand these at the very minimum.

## **Biology**

- Cellular processes
- Scientific reasoning and scientific method
- · Classification and Taxonomy
- Photosynthesis
- Genetics

# Chemistry

- Atoms and molecules
- · Protons and electrons
- States of matter
- Redox reactions
- Chemical reactions
- Acid and base
- Molarity

Periodic table

# Physics (optional)

- · Potential, mechanical and kinetic energy
- Speed, acceleration and momentum
- Electricity currents voltage and resistance
- · Ohm's law
- Newton's laws
- Linear and rotational motion

The questions below are not the same as you will find on the HESI® - that would be too easy! And nobody knows what the questions will be and they change all the time. Mostly the changes consist of substituting new questions for old, but the changes also can be new question formats or styles, changes to the number of questions in each section, changes to the time limits for each section and combing sections. Below are general Science questions that cover the same areas as the HESI®. While the format and exact wording of the questions may differ slightly, and changes from year to year, if you can answer the questions below, you will have no problem with the Science section of the HESI®.

# Science Self Assessment

The purpose of the self-assessment is:

- Identify your strengths and weaknesses.
- Develop your personalized study plan (above)
- Get accustomed to the HESI® format
- Extra practice the self-assessment is a 3<sup>rd</sup> test!
- Provide a baseline score for preparing your study schedule.

Since this is a self-assessment, and depending on how confident you are with basic science, timing yourself is optional. The biology, chemistry and optional physics sections have 75 questions to be answered in 75 minutes. The self-assessment has 30 questions, so allow 30 minutes to complete.

Once complete, use the table below to assess you understanding of the content, and prepare your study schedule described in chapter 1.

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80% - 100%	Excellent – you have mastered the content
60% – 79%	Good. You have a working knowledge. Even though you can just pass this section, you may want to review the tutorials and do some extra practice to see if you can improve your mark.
40% - 59%	Below Average. You do not understand the science content.  Review the tutorials, and retake this quiz again in a few days, before proceeding to the practice test questions.
Less than 40%	Poor. You have a very limited understanding of the content.  Please review the tutorials, and take this quiz again in a few days, before proceeding to the practice test questions.

# Science Self Assessment Answer Sheet

1. (A) (B) (C) (D)	11. (A) (B) (C) (D) 21. (A) (B) (C) (D)
2. (A) (B) (C) (D)	12. A B C D 22. A B C D
3. (A) (B) (C) (D)	13. A B C D 23. A B C D
<b>4</b> . A B C D	14. A B C D 24. A B C D
<b>5.</b> (A) (B) (C) (D)	15. A B C D 25. A B C D
<b>6.</b> (A) (B) (C) (D)	16. A B C D 26. A B C D
7. (A) (B) (C) (D)	17. A B C D 27. A B C D
8. (A) (B) (C) (D)	18. A B C D 28. A B C D
9. (A) (B) (C) (D)	19. A B C D 29. A B C D
<b>10.</b> (A) (B) (C) (D)	20. A B C D 30. A B C D

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## **Physics**

## 1. Which of the following is not true of atomic theory?

- a. Originated in the early 19th century with the work of John Dalton.
- b. Is the field of physics that describes the characteristics and properties of atoms that make up matter.
- c. Explains temperature as the momentum of atoms.
- d. Explains macroscopic phenomenon through the behavior of microscopic atoms.

## 2. Which of these statements about atoms is/are correct?

- a. Are the largest unit of matter that can take part in a chemical reaction.
- b. Can be chemically broken down into much simpler forms.
- c. Are composed of protons and neutrons in a central nucleus surrounded by electrons.
- d. Do not differ in terms of atomic number or atomic mass.

## 3. Protons, neutrons, and electrons differ in that:

- a. Protons and neutrons form the nucleus of an atom, while electrons are found in fixed energy levels around the nucleus of the atom.
- b. Protons and neutrons are charged particles and electrons are neutral.
- c. Protons and neutrons form fixed energy levels around the nucleus of the atom and electrons are located near the surface of the atom.
- d. Protons, neutrons and electrons are charged particles.

# 4. Newton's laws of motion consist of three physical laws that form the basis for classical mechanics. Which of the following is/are not included in these laws?

- a. Unless acted upon by a force, a body at rest stays at rest.
- b. Unless acted upon by a force, a body in motion will change direction and gradually slow until it eventually stops.
- c. To every action, there is an equal and opposite reaction.
- d. A body acted upon by a force will accelerate in the same direction as the force at a magnitude that is directly proportional to the force.

# **Answer Key**

### 1. C

Answer c is incorrect because atomic theory explains temperature as the motion of atoms (faster = hotter), not the momentum. The momentum of atoms explains the outward pressure that they exert.

### 2. C

The only correct statement is "Are composed of protons and neutrons in a central nucleus surrounded by electrons."

#### 3. A

Protons and neutrons form the nucleus of an atom, while electrons are found in fixed energy levels around the nucleus of the atom.

## 4. B

Unless acted on by a force, a body in motion will change direction and gradually slow until it eventually stops.

# **Science Tutorials**

## Scientific Method

The scientific method is a set of steps that allow people who ask "how" and "why" questions about the world to go about finding valid answers that accurately reflect reality.

Were it not for the scientific method, people would have no valid method for drawing quantifiable and accurate information about the world.

## There are four primary steps to the scientific method:

- 1. Analyzing an aspect of reality and asking "how" or "why" it works or exists
- 2. Forming a hypothesis that explains "how" or "why"
- 3. Making a prediction about the sort of things that would happen if the hypothesis were true
- 4. Performing an experiment to test your prediction.

These steps vary somewhat depending on the field of science you happen to be studying. (In astronomy, for instance, experiments are generally eschewed in favor of observational evidence confirming that predictions are true.) But for the most part, this is the model scientists follow.

### Observation and Analysis

The first step in the scientific method requires you to determine what it is about reality that you want to explore.

You might notice that your friends who eat regular servings of fruits and vegetables are healthier and more athletic than your friends who live off red meat and meals covered in cheese and gravy. This is an observation and, noting it, you are likely to ask yourself "why" it seems to be true. At this stage of the scientific method, scientists will often do research to see if anyone else has explored similar observations and analyze what other people's findings have been. This is an important step not only because shows what others have found to be true about their observation, but because it can show what others have found to be false, which can be equally valuable.

# Hypothesis

After making your observation and doing some research, you can form your hypothesis. A hypothesis is an idea you formulate based on the evidence you have already gathered about "how" your observation relates to reality.

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contained in the DNA genes. RNA plays important roles within the cell such as helping to catalyze biological reactions sense and communicate cellular signals and control gene expressions. RNA is also essential for protein synthesis.

### **Mitosis and Meiosis**

Meiosis and mitosis are two types of cellular division and they play a very important role in cell reproduction and the maintenance of tissues.

The cell is the basic functional unit of living organisms. It is made up of a collection of organelles and other cell matter dispersed within the cell membrane. For new cells to form, existing cells divide through the process of meiosis or mitosis, depending on the type of cell and reason for division.

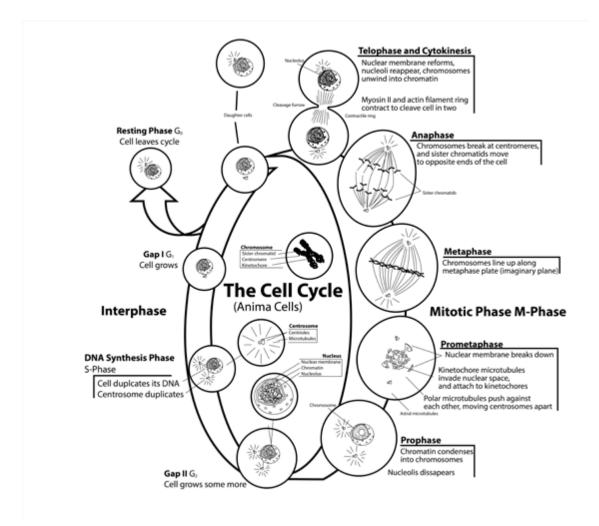
### Mitosis refers to the division of a cell into two identical cells.

The original cell goes through a process of duplication of its genetic material and then equally divides its contents into two new daughter cells. The process of mitosis goes through several stages until the two cells segregate to form two distinct but genetically identical cells.

### Mitosis cell division

During mitosis the cell divides its nucleus and then separates its organelles and chromosomes into two identical parts. The mother cell then divides into two genetically identical cells with equal parts of the cellular contents. The nuclei, cell membrane, organelles and cytoplasm of the cell would be shared between the two new cells.

Mitosis cell division is a complex and fast process. The process takes place in stages with each stage comprising of a set of activities that leads to the next set. The stages of mitosis are Prophase, Prometaphase, Metaphase, Anaphase and Telophase. Mitosis occurs in some unicellular organisms and within animal and human cells. Unicellular organisms use mitosis to reproduce their like and within animal and humans, mitosis is used to replace cells and repair tissues.



### **Meiosis**

Meiosis occurs when one cells from the male and female combines or fuses together to form one diploid cell, which then splits to form four haploid cells.

The diploid cell contains copies of the chromosome and genetic information from both parents. The resulting four haploid cells will contain a copy of each chromosome.

Each chromosome in the four cells will contain a unique blend of the paternal and maternal genetic information, which makes it possible for the offspring to share some genetic resemblance to both parents while remaining genetically distinct from both of them. This nature of meiosis cell division is what accounts for the genetic diversity that is available today as each offspring DNA is a

# Anatomy and Physiology

The Tutorials are designed to familiarize general principles and the self-assessment contains general questions similar to the questions likely to be on the HESI® exam, but are not intended to be identical to the exam questions. Many Universities recommend that students take an introductory Science course before taking the HESI® Exam. The tutorials are *not* designed to be a complete anatomy and physiology course, and it is assumed that students have some familiarity with anatomy and physiology. If you do not understand parts of the tutorial, or find the tutorial difficult, it is recommended that you seek out additional instruction.

# Tour of the HESI Anatomy and Physiology Content

The HESI<sup>®</sup> anatomy and physiology section currently has 25 questions which are included in the 'science' section together with biology, chemistry and Physics. We have given the anatomy and physiology questions a separate chapter because there is so much information in this section. Below is a detailed list of the topics likely to appear on the HESI<sup>®</sup>.

- Anatomical quadrants and body planes
- Urinary system
- The Circulatory System
- The Digestive System
- The Endocrine System
- The Integumentary System
- The Reproductive System
- The Respiratory System
- The Skeletal System
- The Nervous System
- The Urinary System

The questions below are not the same as you will find on the HESI ®- that would be too easy! And nobody knows what the questions will be and they change all the time. Mostly the changes consist of substituting new questions for old, but the changes also can be new question formats or styles, changes to the number of questions in each section, changes to the time limits for each section and combing sections. Below are general Science questions that cover the same areas as the HESI®. While the format and exact

wording of the questions may differ slightly, and changes from year to year, if you can answer the questions below, you will have no problem with the anatomy and physiology section of the HESI<sup>®</sup>.

# **Anatomy and Physiology Self Assessment**

The purpose of the self-assessment is:

- Identify your strengths and weaknesses.
- Develop your personalized study plan (above)
- Get accustomed to the HESI® format
- Extra practice the self-assessment is a 3<sup>rd</sup> test!
- Provide a baseline score for preparing your study schedule.

Since this is a self-assessment, and depending on how confident you are with basic science, timing yourself is optional. The anatomy and physiology section has 25 questions to be answered in 25 minutes. The self-assessment has 25 questions, so allow 25 minutes to complete.

Once complete, use the table below to assess you understanding of the content, and prepare your study schedule described in chapter 1.

80% - 100%	Excellent – you have mastered the content	
60% – 79%	Good. You have a working knowledge. Even though you can just pass this section, you may want to review the tutorials and do some extra practice to see if you can improve your mark.	
40% - 59%	Below Average. You do not understand the anatomy and physiology content.	
1070 0370	Review the tutorials, and retake this quiz again in a few days, before proceeding to the practice test questions.	
Less than 40%	Poor. You have a very limited understanding of the content.  Please review the tutorials, and retake this quiz again in a few days, before proceeding to the practice test questions.	

# **Anatomy and Physiology**

- 1. A B C D 11. A B C D 21. A B C D
- 2. A B C D 12. A B C D 22. A B C D
- 3. A B C D 13. A B C D 23. A B C D
- 4. A B C D 14. A B C D 24. A B C D
- 5. (A) (B) (C) (D) 15. (A) (B) (C) (D) 25. (A) (B) (C) (D)
- 6. A B C D 16. A B C D
- 7. A B C D 17. A B C D
- 8. (A) (B) (C) (D) 18. (A) (B) (C) (D)
- 9. A B C D 19. A B C D
- **10**. (A) (B) (C) (D) **20**. (A) (B) (C) (D)

1. Anatomy breaks the human abdomen down into segments called

# **Anatomy and Physiology**

	a. Regions
	b. Districts
	c. Quadrants
	d. Areas
2.	What are the commonly used abbreviations for the quadrants of the abdomen?
	a. QUR, QUL, QLR, QLL
	b. ABC, DEF, GHI, JKL
	c. RUQ, LUQ, RLQ, LLQ
	d. RR, LL, QQ, RQ
3.	What is an example of human homeostasis?
	a. Metabolism
	b. Adrenalin
	c. Hormones
	d. Fluid Balance
4.	Fluid balance might be negatively impacted when the fail.
	a. Kidneys
	b. Ears
	c. Nose
	d. Legs
5.	Squamous, cuboidal and columnar are three kinds of what kind of cell tissue?
	a. Epidermis
	b. Epithelial tissue
	c. Nerve tissue
	d. Muscle tissue

# **Answer Key**

### 1. C

Anatomy breaks the human abdomen down into segments called quadrants.

#### 2. C

The commonly used abbreviations for the Quadrants are, Right Upper Quadrant, RUQ, Left Upper Quadrant, LUQ, Right Lower Quadrant, RLQ, Left Lower Quadrant, LLQ.

### 3. D

The human body manages a multitude of highly complex interactions to maintain balance within a normal range. The kidneys are responsible for regulating blood water levels, re-absorption of substances into the blood, maintenance of salt and ion levels in the blood, regulation of blood pH, and excretion of urea and other wastes.

## 4. A

Kidneys are responsible for regulating fluid balance.

#### 5. B

Epithelium is one of the four basic types of tissue, along with connective tissue, muscle tissue and nervous tissue.

# **Anatomy and Physiology Tutorials**

# **Circulatory System**

## Tour of the System

The easiest way to see how the circulatory system works is by taking a tour with erythrocytes (red blood cells) through the system:

The erythrocytes start in the *left ventricle* of the heart.

They then move through the aortic valve into the aorta.

As the aorta branches into smaller arteries, the erythrocytes move into an *artery* then split into smaller blood vessels known as *arterioles*.

From arterioles, the erythrocytes pass into a capillary, or capillary bed.

*Capillaries* are tiny blood vessels and it is in these vessels that the exchange of oxygen, nutrients and carbon dioxide takes place.

After this exchange, the erythrocytes are de-oxygenated (oxygen has been removed from the erythrocyte).

Blood that contains these de-oxygenated erythrocytes is also known as venous blood.

The erythrocytes, which now contain carbon dioxide and other waste products, pass from the capillaries into *venules*.

Venules come together to form veins.

From the veins, the erythrocytes flow into the superior vena cava, and into the right atrium. They pass through the tricuspid valve into the right ventricle.

The erythrocytes pass through the pulmonary valve and into the pulmonary artery on their way to the lungs. The pulmonary artery is the only artery that carries deoxygenated blood.

In the lungs, the erythrocytes give up their carbon dioxide and absorb oxygen. Now the blood goes back to the left atrium, through the mitral valve and into the left ventricle, ready to start its journey once again.

The movement of the blood to and from the heart is the systemic circulation and the movement of the blood from the heart to the lungs and back again is the pulmonary

circulation.

The blood pressure in arteries is regulated by muscular contraction or expansion of the arterial walls, according to need.

The circulatory system also consists of the lymphatic system, which has the job of distributing lymph throughout the body. This is how lymph moves through the system:

In capillaries, the serum, or the liquid part of the blood, seeps through the tissues.

If tissues are inflamed, the capillaries are more permeable and so seepage is faster.

This serum is called lymph.

Lymph makes its way through tissues, until it collects in the lymphatic ducts.

Once in the ducts, lymph begins to make its way back to the venous blood stream.

As lymph moves, lymph nodes filtered it.

These lymph nodes contain leukocytes (white blood cells) which are ready to attack bacteria or viruses.

### **Functions**

The circulatory system has several key functions, including:

- Controlling the movement of blood and lymph through the body
- Exchanging gases (oxygen and carbon dioxide) with other cells and tissues in the body
- Exchanging nutrients (such as amino acids and electrolytes) with other cells and tissues
- Helping with immune responses
- Helping with clotting
- Helping in the maintenance of body temperature and pH (maintaining homeostasis)

# Components

**Heart:** This is what pumps blood around the body. Because the heart is a muscle, it also needs oxygen, so it has its own circulatory system known as the *coronary circulation*, which takes blood to and from the heart.

**Aorta:** This is the main artery that receives blood from the heart. It is a very tough, muscular artery.

**Arteries:** These blood vessels also contain muscle to make them elastic. This helps to move the blood along.

**Arterioles:** Also muscular these smaller vessels contract to deliver blood to the capillaries.

**Capillaries:** These are the diameter of a single cell, making exchange of gases and other products from erythrocytes easy.

**Venules:** Many of these small blood vessels come together to form a vein.

**Veins:** Unlike arteries, these do not contract. With a tube-like structure, they contain valves to prevent blood from flowing backwards.

**Lymph ducts:** These empty lymph into the veins.

**Lymph nodes:** These act as filters for the lymph and are very important in the immune system. Inflammation of these usually shows infection in the body.

### **Common Diseases and Disorders**

**Angina:** Is a type of chest pain that often radiates down the arm. Angina is caused when the heart cannot receive the blood and oxygen that it needs (usually because the coronary arteries are blocked with plaque).

**Cardiac Arrest**: The heart stops pumping blood around the body. Unlike a heart attack, this can happen suddenly without a known cause (such as coronary heart disease).

**Coronary heart disease:** Coronary arteries (which supply the heart with blood) are narrowed because of plaque deposits on their walls. These deposits prevent enough oxygen from reaching the heart.

**Heart Attack or Myocardial Infarction**: When the coronary arteries (which supply blood the heart muscle with blood) become blocked with plaque, blood flow to the heart muscles is reduced. This causes damage to the heart muscle as well as increasing the risk of part of the heart muscle dying.

Phlebitis: This is inflammation of a vein. A common place is in the legs, where the veins

swell and block the blood, so the leg swells markedly.

**Varicose veins**: Unnaturally swollen veins caused by faulty valves. These are usually in the legs.

# **Medical Terminology**

**Blood pressure:** This is how much pressure there is against the walls of the main arteries. The systolic pressure is when the ventricles of the heart contract and the diastolic pressure is when ventricles relax and refill. The classic blood pressure measurement is 120/80 (120 is the systole value and 80 is the diastole value).

**Erythrocytes:** These red blood cells carry oxygen, carbon dioxide and other products through the circulatory system.

Hypertension: High blood pressure

**Hypotension: L**ow blood pressure

**Leukocytes:** There are several different kinds of white blood cells and they play a key role in the immune system.

**Platelets:** Platelets are cell fragments found in the blood. They are essential for blood clotting.

**Pulse rate/heart rate:** The number of times the heart beats per minute.

The circulatory system is also important when assessing a person's color. The color changes when a greater or lesser quantity of blood diverts to the skin, so color is a good indicator of health.

**Terms to denote a lack of color include:** pale, ashen, pallid, sallow, white, colorless, white as a ghost, blanched.

Terms to denote too much color include: florid, flushed, crimson, ruddy, feverish.

There are also *trauma terms* for the circulatory system:

**Bleeding:** Blood coming from a lesion. Internal bleeding is bleeding inside the body, often caused by an injury or disease. Blood may sometimes leak from an opening such as the mouth or anus.

**Bleeding nose (Epistaxis):** Blood coming from the nose, usually due to trauma. A bleeding nose can sometimes start spontaneously due to increased blood pressure.

**Bruised:** Discolored due to a blow. Usually the skin is not broken (a bruise is also called a contusion).

**Cut or Incision:** A clean-cut wound or slit such as one caused by a knife.

**Crush:** Caused by pressure a crush is a contusion or bruise, showing internal bleeding.

**Gash or laceration:** A wound that is torn or ragged.

**Scrape:** An abrasion or graze caused by scraping off the upper tissues of the skin.

**Swollen:** Bigger than usual, often through accumulation of fluid.

**Throbbing:** When used with pain, it means that the pain gets worse in a rhythmic pattern (with the heartbeat).

Other miscellaneous medical and trauma terms include:

**Blood blister:** A dark swelling of the skin caused by pinching, which breaks a small blood vessel. The skin remains unbroken.

**Blood tests:** A variety of tests carried out with a blood sample. A blood test can check for many disorders including anemia, infections or even liver damage.

**Blood in the urine:** Shows problems with the bladder, kidneys or prostate gland.

Hemangioma (blood spot or birthmark): Is a dark red discoloration of the skin.

**Occult blood:** "Occult" means hidden. To detect colon cancer, feces is checked for occult blood.

**Palpitations or bumping:** This refers to an irregular heartbeat, often experienced by the patient as a "bumping in the chest."

**Tarry stools:** These are feces that dark in color, like tar, caused by old blood in the digestive tract. Tarry stools can show internal bleeding.

**Transfusion:** Transfusing, or giving of blood taken from a blood donor.

# Practice Test Questions Set 1

# Section I - Reading Comprehension

**Questions:** 35 **Time:** 50 Minutes

# **Section II - Mathematics**

**Questions:** 50 **Time:** 60 Minutes

# Section III English Grammar

**Questions:** 50 **Time:** 50 Minutes

# Section IV - Vocabulary

**Questions:** 50 **Time:** 50 Minutes

## Section V - Part I - Science

**Questions:** 75 **Time:** 125 minutes

# Section VI Anatomy & Physiology

**Questions:** 25 **Time:** 25 minutes

The questions below are not the same as you will find on the HESI® - that would be too easy! And nobody knows what the questions will be and they change all the time. Below are general questions that cover the same subject areas as the HESI. So, while the format and exact wording of the questions may differ slightly, and change from year to year, if you can answer the questions below, you will have no problem with the HESI.

For the best results, take this Practice Test as if it were the real exam. Set aside time when you will not be disturbed, and a location that is quiet and free of distractions. Read the instructions carefully, read each question carefully, and answer to the best of your ability.

Use the bubble answer sheets provided. When you have completed the Practice Test, check your answer against the Answer Key and read the explanation provided.

Do not attempt more than one set of practice test questions in one day. After completing the first practice test, wait two or three days before attempting the second set of questions.

This set of practice test questions contains all the HESI<sup>®</sup> modules. Different schools use different modules so be sure to check with your school for the modules being used.

# **Answer Sheet - Reading Comprehension**

1. A B C D	18. A B C D	<b>35.</b> A B C D

**19.** (A) (B) (C) (D)

3. A B C D 20. A B C D

2. (A) (B) (C) (D)

4. (A) (B) (C) (D) 21. (A) (B) (C) (D)

5. A B C D 22. A B C D

6. A B C D 23. A B C D

7. (A) (B) (C) D 24. (A) (B) (C) (D)

8. (A) (B) (C) (D) 25. (A) (B) (C) (D)

9. (A) (B) (C) (D) 26. (A) (B) (C) (D)

**10.** (A) (B) (C) (D) **27.** (A) (B) (C) (D)

11. (A) (B) (C) (D) 28. (A) (B) (C) (D)

12. (A) (B) (C) (D) 29. (A) (B) (C) (D)

13. (A) (B) (C) (D) 30. (A) (B) (C) (D)

14. (A) (B) (C) (D) 31. (A) (B) (C) (D)

15. (A) (B) (C) (D) 32. (A) (B) (C) (D)

**16.** (A) (B) (C) (D) **33.** (A) (B) (C) (D)

17. (A) (B) (C) (D) 34. (A) (B) (C) (D)

# **Answer Sheet - Mathematics**

1. (A) (B) (C) (D)	18. (A) (B) (C) (D)	35. (A) (B) (C) (D)
2. (A) (B) (C) (D)	19. (A) (B) (C) (D)	<b>36.</b> (A) (B) (C) (D)
3. (A) (B) (C) (D)	<b>20</b> . (A) (B) (C) (D)	37. (A) (B) (C) (D)
<b>4.</b> (A) (B) (C) (D)	<b>21</b> . (A) (B) (C) (D)	<b>38.</b> (A) (B) (C) (D)
5. (A) (B) (C) (D)	<b>22.</b> (A) (B) (C) (D)	<b>39.</b> (A) (B) (C) (D)
6. A B C D	23. (A) (B) (C) (D)	<b>40.</b> A B C D
7. (A) (B) (C) (D)	<b>24.</b> (A) (B) (C) (D)	<b>41</b> . (A) (B) (C) (D)
8. (A) (B) (C) (D)	<b>25.</b> (A) (B) (C) (D)	<b>42.</b> (A) (B) (C) (D)
9. (A) (B) (C) (D)	<b>26.</b> (A) (B) (C) (D)	<b>43</b> . (A) (B) (C) (D)
<b>10.</b> (A) (B) (C) (D)	<b>27</b> . (A) (B) (C) (D)	44. (A) (B) (C) (D)
<b>11</b> . (A) (B) (C) (D)	28. (A) (B) (C) (D)	<b>45</b> . A B C D
12. (A) (B) (C) (D)	<b>29</b> . (A) (B) (C) (D)	<b>46</b> . (A) (B) (C) (D)
13. (A) (B) (C) (D)	<b>30</b> . (A) (B) (C) (D)	47. (A) (B) (C) (D)
<b>14.</b> (A) (B) (C) (D)	31. (A) (B) (C) (D)	<b>48</b> . A B C D
<b>15.</b> (A) (B) (C) (D)	<b>32.</b> (A) (B) (C) (D)	<b>49</b> . A B C D
<b>16.</b> (A) (B) (C) (D)	33. (A) (B) (C) (D)	<b>50</b> . (A) (B) (C) (D)
17. (A) (B) (C) (D)	<b>34.</b> (A) (B) (C) (D)	

# **Answer Sheet – English Grammar**

1. (A) (B) (C) (D)	18. (A) (B) (C) (D)	<b>35.</b> (A) (B) (C) (D)
<b>2</b> . (A) (B) (C) (D)	19. (A) (B) (C) (D)	<b>36.</b> (A) (B) (C) (D)
3. (A) (B) (C) (D)	<b>20</b> . (A) (B) (C) (D)	<b>37</b> . (A) (B) (C) (D)
<b>4.</b> (A) (B) (C) (D)	<b>21.</b> (A) (B) (C) (D)	<b>38.</b> (A) (B) (C) (D)
5. A B C D	<b>22.</b> (A) (B) (C) (D)	<b>39</b> . A B C D
6. A B C D	23. (A) (B) (C) (D)	<b>40</b> . A B C D
7. (A) (B) (C) (D)	<b>24.</b> (A) (B) (C) (D)	<b>41</b> . (A) (B) (C) (D)
8. (A) (B) (C) (D)	<b>25.</b> (A) (B) (C) (D)	<b>42</b> . A B C D
9. (A) (B) (C) (D)	<b>26.</b> (A) (B) (C) (D)	<b>43</b> . (A) (B) (C) (D)
10. (A) (B) (C) (D)	<b>27.</b> (A) (B) (C) (D)	<b>44</b> . (A) (B) (C) (D)
<b>11</b> . (A) (B) (C) (D)	28. (A) (B) (C) (D)	<b>45</b> . A B C D
<b>12.</b> (A) (B) (C) (D)	<b>29.</b> (A) (B) (C) (D)	<b>46</b> . (A) (B) (C) (D)
13. (A) (B) (C) (D)	<b>30</b> . (A) (B) (C) (D)	47. (A) (B) (C) (D)
14. (A) (B) (C) (D)	31. (A) (B) (C) (D)	<b>48</b> . A B C D
<b>15.</b> (A) (B) (C) (D)	<b>32.</b> (A) (B) (C) (D)	<b>49</b> . A B C D
<b>16.</b> (A) (B) (C) (D)	33. (A) (B) (C) (D)	<b>50</b> . A B C D
17. (A) (B) (C) (D)	<b>34.</b> (A) (B) (C) (D)	

# **Answer Sheet - Vocabulary**

1. (A) (B) (C) (D)	18. (A) (B) (C) (D)	35. (A) (B) (C) (D)
2. (A) (B) (C) (D)	19. A B C D	<b>36.</b> (A) (B) (C) (D)
3. (A) (B) (C) (D)	<b>20.</b> (A) (B) (C) (D)	37. (A) (B) (C) (D)
4. (A) (B) (C) (D)	<b>21.</b> (A) (B) (C) (D)	<b>38.</b> (A) (B) (C) (D)
5. A B C D	<b>22.</b> (A) (B) (C) (D)	39. (A) (B) (C) (D)
6. A B C D	23. (A) (B) (C) (D)	<b>40</b> . A B C D
7. (A) (B) (C) (D)	<b>24.</b> (A) (B) (C) (D)	<b>41</b> . (A) (B) (C) (D)
8. A B C D	<b>25.</b> (A) (B) (C) (D)	<b>42.</b> (A) (B) (C) (D)
9. A B C D	<b>26.</b> (A) (B) (C) (D)	<b>43.</b> (A) (B) (C) (D)
10. (A) (B) (C) (D)	27. (A) (B) (C) (D)	<b>44.</b> (A) (B) (C) (D)
11. (A) (B) (C) (D)	28. (A) (B) (C) (D)	<b>45</b> . ABCD
<b>12</b> . (A) (B) (C) (D)	<b>29</b> . (A) (B) (C) (D)	<b>46</b> . (A) (B) (C) (D)
13. (A) (B) (C) (D)	<b>30</b> . (A) (B) (C) (D)	47. (A) (B) (C) (D)
<b>14</b> . (A) (B) (C) (D)	31. (A) (B) (C) (D)	<b>48</b> . A B C D
<b>15</b> . A B C D	<b>32</b> . (A) (B) (C) (D)	<b>49</b> . A B C D
<b>16</b> . (A) (B) (C) (D)	33. (A) (B) (C) (D)	<b>50</b> . A B C D

17. (A) (B) (C) (D) 34. (A) (B) (C) (D)

# **Answer Sheet - Science**

1. (A) (B) (C) (D)	<b>21</b> . (A) (B) (C) (D)	41. (A) (B) (C) (D)	61. A B C D
<b>2</b> . (A) (B) (C) (D)	<b>22.</b> (A) (B) (C) (D)	<b>42</b> . A B C D	<b>62.</b> (A) (B) (C) (D)
3. (A) (B) (C) (D)	23. A B C D	43. (A) (B) (C) (D)	<b>63.</b> (A) (B) (C) (D)
4. A B C D	<b>24</b> . (A) (B) (C) (D)	<b>44</b> . (A) (B) (C) (D)	64. (A) (B) (C) (D)
5. (A) (B) (C) (D)	<b>25</b> . A B C D	<b>45</b> . A B C D	65. A B C D
6. A B C D	<b>26</b> . (A) (B) (C) (D)	46. (A) (B) (C) (D)	66. (A) (B) (C) (D)
7. (A) (B) (C) (D)	27. (A) (B) (C) (D)	47. (A) (B) (C) (D)	67. (A) (B) (C) (D)
8. (A) (B) (C) (D)	28. A B C D	48. (A) (B) (C) (D)	68. (A) (B) (C) (D)
9. (A) (B) (C) (D)	<b>29</b> . A B C D	49. (A) (B) (C) (D)	<b>69</b> . A B C D
<b>10.</b> (A) (B) (C) (D)	<b>30.</b> (A) (B) (C) (D)	<b>50</b> . (A) (B) (C) (D)	70. (A) (B) (C) (D)
11. (A) (B) (C) (D)	<b>31</b> . (A) (B) (C) (D)	<b>51.</b> (A) (B) (C) (D)	71. (A) (B) (C) (D)
<b>12.</b> (A) (B) (C) (D)	<b>32</b> . A B C D	<b>52</b> . A B C D	72. (A) (B) (C) (D)
<b>13.</b> (A) (B) (C) (D)	33. (A) (B) (C) (D)	<b>53.</b> A B C D	73. (A) (B) (C) (D)
<b>14.</b> (A) (B) (C) (D)	<b>34</b> . (A) (B) (C) (D)	<b>54.</b> (A) (B) (C) (D)	74. (A) (B) (C) (D)
<b>15.</b> (A) (B) (C) (D)	35. (A) (B) (C) (D)	55. A B C D	75. (A) (B) (C) (D)
16. (A) (B) (C) (D)	36. (A) (B) (C) (D)	56. A B C D	
17. (A) (B) (C) (D)	37. (A) (B) (C) (D)	57. A B C D	
18. A B C D	38. (A) (B) (C) (D)	58. A B C D	
19. (A) (B) (C) (D)	<b>39.</b> (A) (B) (C) (D)	<b>59.</b> (A) (B) (C) (D)	
<b>20</b> . (A) (B) (C) (D)	<b>40</b> . A B C D	<b>60</b> . A B C D	

# **Answer Sheet - Anatomy and Physiology**



2. A B C D 12. A B C D 22. A B C D

3. A B C D 13. A B C D 23. A B C D

4. A B C D 14. A B C D 24. A B C D

5. A B C D 15. A B C D 25. A B C D

6. A B C D 16. A B C D

7. A B C D 17. A B C D

8. A B C D 18. A B C D

9. (A) (B) (C) (D) 19. (A) (B) (C) (D)

10. (A) (B) (C) (D) 20. (A) (B) (C) (D)

# Practice Test Questions Set 2

# **Section I - Reading Comprehension**

**Questions:** 35 **Time:** 60 Minutes

### **Section II - Mathematics**

**Questions:** 50 **Time:** 60 Minutes

# Section III English Grammar

**Questions:** 50 **Time:** 50 Minutes

# Section IV - Vocabulary

**Questions:** 50 **Time:** 50 Minutes

# Section V - Part I - Science

**Questions:** 75 **Time:** 125 minutes

# Section VI Anatomy & Physiology

**Questions:** 25 **Time:** 25 minutes

The practice test portion presents questions that are representative of the type of question you should expect to find on the HESI<sup>®</sup>. However, they are not intended to match exactly what is on the HESI<sup>®</sup>.

For the best results, take this Practice Test as if it were the real exam. Set aside time when you will not be disturbed, and a location that is quiet and free of distractions. Read the instructions carefully, read each question carefully, and answer to the best of your ability.

Use the bubble answer sheets provided. When you have completed the Practice Test, check your answer against the Answer Key and read the explanation provided.

Do not attempt more than one set of practice test questions in one day. After completing the first practice test, wait two or three days before attempting the second set of questions.

This set of practice test questions contains all the HESI<sup>®</sup> modules. Different schools use different modules so be sure to check with your school for the modules being used.

# **Section I - Reading Comprehension**

1.	(A)(B)(C)(D)
••	

# 35. (A) (B) (C) (D)

# **Section II - Mathematics**

1. (A) (B) (C) (D)	18. (A) (B) (C) (D)	35. A B C D
2. (A) (B) (C) (D)	19. (A) (B) (C) (D)	<b>36.</b> (A) (B) (C) (D)
3. (A) (B) (C) (D)	<b>20</b> . (A) (B) (C) (D)	37. (A) (B) (C) (D)
<b>4.</b> (A) (B) (C) (D)	<b>21.</b> (A) (B) (C) (D)	<b>38.</b> (A) (B) (C) (D)
5. A B C D	<b>22.</b> (A) (B) (C) (D)	<b>39</b> . (A) (B) (C) (D)
6. A B C D	23. (A) (B) (C) (D)	<b>40</b> . A B C D
7. (A) (B) (C) (D)	<b>24.</b> (A) (B) (C) (D)	<b>41</b> . (A) (B) (C) (D)
8. A B C D	25. (A) (B) (C) (D)	<b>42</b> . (A) (B) (C) (D)
9. A B C D	<b>26.</b> (A) (B) (C) (D)	<b>43</b> . (A) (B) (C) (D)
<b>10.</b> (A) (B) (C) (D)	27. (A) (B) (C) (D)	<b>44</b> . (A) (B) (C) (D)
<b>11</b> . A B C D	28. (A) (B) (C) (D)	<b>45</b> . A B C D
12. (A) (B) (C) (D)	29. (A) (B) (C) (D)	<b>46</b> . (A) (B) (C) (D)
13. (A) (B) (C) (D)	<b>30</b> . (A) (B) (C) (D)	47. (A) (B) (C) (D)
<b>14.</b> (A) (B) (C) (D)	31. (A) (B) (C) (D)	<b>48</b> . A B C D
<b>15.</b> (A) (B) (C) (D)	<b>32.</b> (A) (B) (C) (D)	<b>49</b> . A B C D
<b>16.</b> (A) (B) (C) (D)	33. (A) (B) (C) (D)	<b>50</b> . A B C D
17. (A) (B) (C) (D)	<b>34.</b> (A) (B) (C) (D)	

# Section III - English Grammar

<b>1</b> . (A) (B) (C) (D)	18. (A) (B) (C) (D)	35. A B C D
<b>2</b> . (A) (B) (C) (D)	19. A B C D	<b>36.</b> (A) (B) (C) (D)
3. (A) (B) (C) (D)	<b>20.</b> (A) (B) (C) (D)	37. (A) (B) (C) (D)
4. (A) (B) (C) (D)	<b>21</b> . (A) (B) (C) (D)	<b>38.</b> (A) (B) (C) (D)
5. (A) (B) (C) (D)	<b>22.</b> (A) (B) (C) (D)	<b>39.</b> (A) (B) (C) (D)
6. (A) (B) (C) (D)	23. (A) (B) (C) (D)	<b>40</b> . A B C D
7. (A) (B) (C) (D)	<b>24.</b> (A) (B) (C) (D)	<b>41</b> . (A) (B) (C) (D)
8. (A) (B) (C) (D)	<b>25.</b> (A) (B) (C) (D)	<b>42</b> . A B C D
9. (A) (B) (C) (D)	<b>26.</b> (A) (B) (C) (D)	<b>43</b> . A B C D
10. (A) (B) (C) (D)	27. (A) (B) (C) (D)	<b>44</b> . (A) (B) (C) (D)
11. (A) (B) (C) (D)	28. (A) (B) (C) (D)	<b>45.</b> (A) (B) (C) (D)
<b>12.</b> (A) (B) (C) (D)	29. A B C D	<b>46</b> . A B C D
13. (A) (B) (C) (D)	<b>30</b> . (A) (B) (C) (D)	47. (A) (B) (C) (D)
14. (A) (B) (C) (D)	31. (A) (B) (C) (D)	<b>48</b> . A B C D
<b>15.</b> (A) (B) (C) (D)	32. (A) (B) (C) (D)	<b>49</b> . A B C D
16. (A) (B) (C) (D)	33. A B C D	<b>50</b> . A B C D
17. (A) (B) (C) (D)	<b>34</b> . (A) (B) (C) (D)	

# Section IV - Vocabulary

<b>1.</b> (A) (B) (C) (D)	18. (A) (B) (C) (D)	35. A B C D
<b>2</b> . (A) (B) (C) (D)	19. A B C D	<b>36.</b> (A) (B) (C) (D)
3. (A) (B) (C) (D)	<b>20.</b> (A) (B) (C) (D)	37. (A) (B) (C) (D)
<b>4</b> . (A) (B) (C) (D)	<b>21.</b> (A) (B) (C) (D)	38. (A) (B) (C) (D)
5. (A) (B) (C) (D)	<b>22.</b> (A) (B) (C) (D)	<b>39.</b> (A) (B) (C) (D)
6. (A) (B) (C) (D)	23. (A) (B) (C) (D)	<b>40</b> . (A) (B) (C) (D)
7. (A) (B) (C) (D)	<b>24.</b> (A) (B) (C) (D)	<b>41</b> . (A) (B) (C) (D)
8. (A) (B) (C) (D)	<b>25.</b> (A) (B) (C) (D)	<b>42.</b> (A) (B) (C) (D)
9. (A) (B) (C) (D)	<b>26.</b> (A) (B) (C) (D)	<b>43</b> . (A) (B) (C) (D)
10. (A) (B) (C) (D)	27. (A) (B) (C) (D)	<b>44</b> . (A) (B) (C) (D)
<b>11</b> . (A) (B) (C) (D)	28. (A) (B) (C) (D)	<b>45</b> . A B C D
<b>12</b> . (A) (B) (C) (D)	<b>29.</b> (A) (B) (C) (D)	<b>46</b> . (A) (B) (C) (D)
13. (A) (B) (C) (D)	<b>30.</b> (A) (B) (C) (D)	47. (A) (B) (C) (D)
14. (A) (B) (C) (D)	31. (A) (B) (C) (D)	<b>48</b> . A B C D
15. (A) (B) (C) (D)	<b>32.</b> (A) (B) (C) (D)	<b>49</b> . (A) (B) (C) (D)
<b>16.</b> (A) (B) (C) (D)	33. (A) (B) (C) (D)	<b>50</b> . (A) (B) (C) (D)
17. A B C D	<b>34</b> . A B C D	

# Section V - Science

1. (A) (B) (C) (D)	<b>21</b> . (A) (B) (C) (D)	41. (A) (B) (C) (D)	61. (A) (B) (C) (D)
<b>2.</b> (A) (B) (C) (D)	<b>22.</b> (A) (B) (C) (D)	42. (A) (B) (C) (D)	<b>62.</b> (A) (B) (C) (D)
3. (A) (B) (C) (D)	<b>23</b> . (A) (B) (C) (D)	43. (A) (B) (C) (D)	<b>63</b> . A B C D
4. (A) (B) (C) (D)	<b>24</b> . A B C D	<b>44</b> . (A) (B) (C) (D)	<b>64</b> . A B C D
5. A B C D	<b>25</b> . A B C D	45. (A) (B) (C) (D)	65. A B C D
6. (A) (B) (C) (D)	<b>26</b> . A B C D	46. (A) (B) (C) (D)	66. (A) (B) (C) (D)
7. (A) (B) (C) (D)	27. (A) (B) (C) (D)	47. (A) (B) (C) (D)	67. (A) (B) (C) (D)
8. (A) (B) (C) (D)	28. A B C D	48. (A) (B) (C) (D)	68. A B C D
9. (A) (B) (C) (D)	<b>29</b> . A B C D	49. (A) (B) (C) (D)	<b>69</b> . A B C D
<b>10.</b> (A) (B) (C) (D)	<b>30.</b> A B C D	50. (A) (B) (C) (D)	70. (A) (B) (C) (D)
11. (A) (B) (C) (D)	31. (A) (B) (C) (D)	<b>51.</b> (A) (B) (C) (D)	71. (A) (B) (C) (D)
<b>12.</b> (A) (B) (C) (D)	32. (A) (B) (C) (D)	<b>52</b> . A B C D	72. (A) (B) (C) (D)
<b>13.</b> (A) (B) (C) (D)	33. A B C D	<b>53.</b> (A) (B) (C) (D)	73. (A) (B) (C) (D)
<b>14.</b> (A) (B) (C) (D)	<b>34.</b> (A) (B) (C) (D)	<b>54.</b> A B C D	74. (A) (B) (C) (D)
15. (A) (B) (C) (D)	<b>35.</b> (A) (B) (C) (D)	<b>55.</b> A B C D	75. A B C D
16. (A) (B) (C) (D)	36. (A) (B) (C) (D)	56. A B C D	76. A B C D
17. (A) (B) (C) (D)	37. (A) (B) (C) (D)	57. A B C D	77. (A) (B) (C) (D)
18. A B C D	38. (A) (B) (C) (D)	58. A B C D	78. A B C D
19. A B C D	<b>39.</b> (A) (B) (C) (D)	<b>59</b> . A B C D	79. (A) (B) (C) (D)
<b>20</b> . A B C D	<b>40</b> . (A) (B) (C) (D)	<b>60</b> . A B C D	<b>80</b> . A B C D

# Section VI - Anatomy and Physiology

1. A B C D 11.	A B C D	21. (A) (B) (C) (D)
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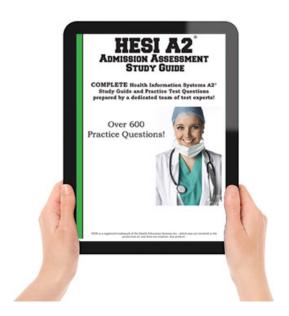
- 4. A B C D 14. A B C D 24. A B C D
- 5. A B C D 15. A B C D 25. A B C D
- 6. A B C D 16. A B C D
- 7. (A) (B) (C) (D) 17. (A) (B) (C) (D)
- 8. (A) (B) (C) (D) 18. (A) (B) (C) (D)
- 9. A B C D 19. A B C D
- 10. (A) (B) (C) (D) 20. (A) (B) (C) (D)

# **Analyzing your Practice Test Results**

Go through your answers carefully. For each wrong answer, refer to the explanation, and work through the questions step-by-step.

- What kind of question (e.g. reading comprehension, science, algebra, basic math etc.)
- Look for patterns in your incorrect answers what is it exactly that you are doing wrong or don't understand.
- What types of questions do you have the most difficulty with? Refer to the tutorials and try to understand the questions.

Refer back to chapter one and re-do your study schedule.



# Complete HESI Study Guide with Practice Questions

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# CONCLUSION

ONGRATULATIONS! You have made it this far because you have applied yourself diligently to practicing for the exam and no doubt improved your potential score considerably! Getting into a good school is a huge step in a journey that might be challenging at times but will be many times more rewarding and fulfilling. That is why being prepared is so important.

Study then Practice and then Succeed!

Good Luck!

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https://www.test-preparation.ca/how-to-overcome-test-anxiety/

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