

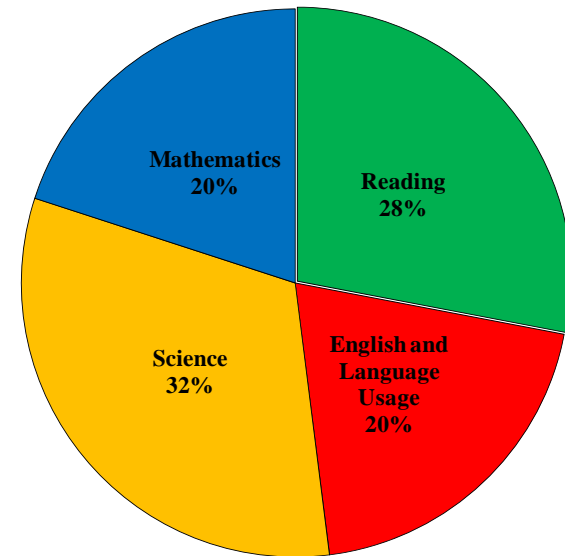


# HOBET V<sup>®</sup>

## Health Occupations Basic Entrance Test

**Test name:** HOBET<sup>®</sup> V  
**Time limit:** 209 minutes (Reading = 58 minutes; Mathematics = 51 minutes; Science = 66 minutes; English = 34 minutes)  
**Number of sections:** 4  
**Number of questions:** 170  
**Format:** Four-option multiple-choice  
**Purpose:** The Health Occupations Basic Entrance Test (HOBET<sup>®</sup>) measures basic essential skills in the academic content area domains of reading, mathematics, science and English and language usage. The test is intended for use with adult allied health program applicant populations.

Content and Subcontent Areas	Number of Scored Questions	Percent of Test Questions
<b>Reading</b>	<b>42</b>	<b>28%</b>
Paragraph and Passage Comprehension	19	13%
Informational Source Comprehension	23	15%
<b>Mathematics</b>	<b>30</b>	<b>20%</b>
Numbers and Operations	19	13%
Algebraic Applications	4	3%
Data Interpretation	3	2%
Measurement	4	3%
<b>Science</b>	<b>48</b>	<b>32%</b>
Human Body Science	11	7%
Life Science	15	10%
Earth and Physical Science	14	9%
Scientific Reasoning	8	5%
<b>English and Language Usage</b>	<b>30</b>	<b>20%</b>
Grammar and Word Meanings in Context	15	10%
Spelling and Punctuation	9	6%
Structure	6	4%
	<b>150*</b>	<b>100%</b>



\*There are an additional 20 unscored pretest items

## HOBET®-V Objectives

The following list contains objectives that may be assessed on HOBET®-V.

### **READING (28% of entire test)**

Paragraph and Passage Comprehension (13% of entire test)

- Identify appropriate primary sources, including Internet sources.
- Analyze the use of topic and summary sentences.
- Distinguish between fact and opinion, biases, and stereotypes.
- Identify the logical conclusion given a reading selection.
- Identify topic, main idea, supporting details, and themes.
- Identify the author's intent to persuade, inform, entertain, or express feelings from a given statement or set of statements.
- Use prior knowledge to make predictions, inferences, and draw conclusions about a piece of literature.
- Analyze and evaluate the use of text structure (e.g., sequence, problem-solution, comparison-contrast, description, cause-effect).
- Identify the author's position and purpose for writing the text.
- Identify the characteristics of different passage types (e.g., narrative, expository, technical, persuasive).
- Interpret the possible influences of the historical context on a literary work.
- Recognize ways that literature from different cultures presents similar themes differently across genres.

Informational Source Comprehension (15% of entire test)

- Follow a given set of directions.
- Identify the correct definition of a word when given the word in context and a sample dictionary entry in which the definition of the word may be found.
- Demonstrate understanding of a label's ingredients and directions by selecting the product best suited for a specific purpose when given a choice of consumer products, inclusive of food and medicine.
- Identify specific information from a printed communication (e.g., a memo, posted announcement, or classified ad).
- Identify from an index or table of contents the page or pages of a publication where specified information may be found.
- Identify the appropriate source for locating information given a specific topic and a list of information sources (e.g., road atlas, card catalog, dictionary, owner's manual, database, encyclopedia).
- Analyze the use of headings and subheadings.
- Analyze and use text features (e.g., bold text).
- Identify appropriate information from a graphic representation of information.
- Identify scale readings when given a picture of a standard measurement instrument.
- Use the legend and key of a sample map to identify specified information.
- Identify which product information supports a conclusion that one product is the more economical buy when given descriptions of like products of comparable quality and product



information (e.g., quantity, delivery charges, costs).

- Identify specified information from a sample yellow page from a telephone book.
- Identify specified information from a sample listing of items and costs (e.g., a menu, movie listings, costs for different groups of people).

### **MATHEMATICS (20% of entire test)**

#### **Numbers and Operations (13% of entire test)**

- Convert between percents, fractions, and decimals.
- Identify the correct decimal placement in a product when given a multiplication problem involving decimal numbers (includes division).
- Calculate percents (e.g., percent of a number, the percent increase or decrease).
- Solve word problems involving percentages.
- Use mathematical reasoning or computational procedures to solve one- or two-step word problems with fractions or decimals.
- Divide two fractions or mixed numbers (includes multiplication).
- Add two fractions or mixed numbers with unlike denominators (includes subtraction).
- Use mathematical reasoning or computational procedures to solve one- or two-step word problems with whole numbers.
- Solve word problems involving ratios, proportions, and rate of change.
- Estimate the solution to a problem.
- Subtract whole numbers with regrouping.
- Convert irrational numbers into approximate decimal form and vice versa
- Convert between Roman and Arabic numerals.
- Determine the amount of take-home pay when given a salary and the deductions for a stated period of time.
- Identify the cost of a given set of items, exclusive of tax, given an advertisement, menu, or other price list.

- Reconcile a checking or savings account when given the previous balance and transactions for a period of time.
- Apply the order of operations.
- Determine, when given information about an event, the quantity of material needed or cost of planning an event.
- Compare and order rational numbers.

#### **Algebraic Applications (3% of entire test)**

- Solve equations with one unknown (e.g., whole numbers, ratios).
- Add, subtract, multiply, and divide polynomial terms.
- Translate word phrases and sentences into expressions, equations, and inequalities and vice versa.
- Solve equations or inequalities involving absolute values.

#### **Data Interpretation (2% of entire test)**

- Organize data using tables, charts, and graphs.
- Read and interpret data from line, bar, or circle graphs.
- Determine the dependent and independent variables of a given set of data.

#### **Measurement (3% of entire test)**

- Convert quantities from one measurement scale to another measurement scale.
- Estimate metric quantities.
- Use appropriate units of measure and measurement tools to accurately measure the length, weight, height and volume of an object.
- Determine a measurement based on another given measurement (e.g., use a scale on a map to determine the distance between two cities)



## **SCIENCE (32% of entire test)**

### Human Body Science (7% of entire test)

- Describe the functions of the circulatory system.
- Describe the functions of the digestive system.
- Describe the functions of the nervous system.
- Describe the functions of the respiratory system.
- Describe the functions of the immune system.
- Describe the general anatomy and physiology of a human.
- Explain that populations grow or decline through the combined effects of births and deaths, and through emigration and immigration.
- Identify various factors that influence birth rates and fertility rates.

### Life Science (10% of entire test)

- Explain the process of natural selection and adaptation.
- Explain the biological classification system.
- Identify parts of a cell and its function (e.g., energy production, transportation of molecules, waste disposal, synthesis of new molecules, storage of genetic material).
- Identify the structure and function of cellular organelles.
- Explain that cells can differentiate.
- Compare and contrast mitosis and meiosis.
- Compare and contrast photosynthesis and respiration.
- Describe the structures and functions of nucleic acids, to include DNA and RNA.
- Explain that changes in DNA (mutations) occur spontaneously at low rates, and that only mutations in the germ cell can create the variation that changes an organism's offspring.
- Describe how RNA and DNA are involved in cell replication.
- Explain that heredity information is stored in genes.

- Compare and contrast chromosomes, genes, proteins, RNA, and DNA.
- Describe the differences between phenotypes and genotypes.
- Apply Mendel's laws of genetics and the Punnett square.

### Earth and Physical Science (9% of entire test)

- Identify the sun as the major external source of energy.
- Balance and identify important chemical reactions, including oxidation/reduction and acid/base reactions.
- Identify the purpose of catalysts.
- Recognize that enzymes are protein molecules.
- Use pH scale to identify acid and base solutions.
- Identify chemical bonds between atoms in common molecules (e.g., common hydrocarbons).
- State the chemical properties of water.
- Distinguish among kinetic energy, potential energy, and other energy contained by a field.
- Identify the measurable properties of atoms, including mass and electrical charge.
- Identify protons, neutrons, and electrons as major components of an atom.
- Explain that chemical bonds result when electrons are shared or transferred between atoms.
- Explain the physical and chemical patterns within the Periodic Table of Elements.
- Explain the difference of the atoms or molecules in liquids, gases, and solids.
- Compare and contrast evaporation, vaporization, and condensation.



**Scientific Reasoning (5% of entire test)**

- Identify questions and concepts that guide scientific investigations, including formulation and testing of hypotheses
- Use technology and mathematics to improve investigations and communications.
- Formulate and revise scientific explanations (including conclusions) and models using logic and evidence.
- Recognize and analyze alternative explanations and models.
- Communicate and defend a scientific argument.
- Identify reasons for conducting investigations.
- Identify reasons for including technology and mathematics in science research.

**ENGLISH AND LANGUAGE USAGE**

**(20% of entire test)**

**Grammar and Word Meanings in Context**

**(10% of entire test)**

- Use grammar for a stylistic effect and to enhance clarity in writing.
- Apply subject-verb agreement rules.
- Apply pronoun-antecedent agreement rules.
- Identify and use different parts of speech (e.g., possessives, pronouns, adjectives, adverbs, verbs).
- Use dialogue correctly.
- Use first, second, and third person narrative voice.
- Use context clues to determine the meaning of words or phrases.

- Determine the meaning of words by analyzing word structure; identifying roots, prefixes, suffixes; and using word origins (e.g., Anglo-Saxon, Latin, Greek).

**Spelling and Punctuation (6% of entire test)**

- Apply rules of spelling (including homophones, irregular plurals, and contractions).
- Correct misspelled words.
- Apply the rules of capitalization.
- Apply the rules of ellipses, commas, semicolons, colons, hyphens, and parentheses.
- Apply the rules of quotation marks and apostrophes.

**Structure (4% of entire test)**

- Demonstrate sentence fluency by techniques such as varying beginnings, lengths, and patterns of sentences; creating sentences that flow together well; and using a variety of sentence structures.
- Use sentences (usually 5 or more) to form organized and logical paragraphs.
- Write simple sentences (e.g., identify, correct, or complete simple sentences).



## HOBET-V Sample Questions

The following questions are sample multiple-choice questions. These questions should not be interpreted as representing the difficulty or exact content covered on the HOBET. The correct answers are at the end of these practice questions.

### **READING SAMPLE QUESTIONS**

Read the following passage and answer questions 1 and 2.

The 2,315-mile Missouri River tops this year's list of the "10 Most Endangered Rivers in North America," compiled annually by the conservation group American Rivers. The "Big Muddy" has been dammed, channeled, and diked to the point that one-fifth of the species native to the river and its floodplain are now classified as endangered, threatened, or of special concern, according to American Rivers. The other nine rivers on the list are New York's Upper Hudson, Washington's White Salmon, California's San Joaquin, Wisconsin's Wolf River, Arizona's Pinto Creek and Potomac, Ohio's Mill Creek, the Lower Colorado and the Tennessee River.

1. Which of the following may be concluded from the passage?
  - A. Wolf River is located in Washington, DC.
  - B. Bodies of water with "creek" in their names are not rivers.
  - C. The damming, diking, and channeling of a river is detrimental to the organisms that inhabit it.
  - D. The rivers of North America have been found to be more endangered than those of South America.
  
2. A conservation group organizes for which of the following principal purposes?
  - A. Collecting data for scientific research
  - B. Saving rain forests
  - C. Channeling rivers
  - D. Preserving nature



**MATHEMATICS SAMPLE QUESTIONS**

3. Thirty percent of the students in a mathematics class received an “A.” If 18 students received an “A,” which of the following represents the number of students in the class?

- A. 18
- B. 30
- C. 54
- D. 60

4. A student earns \$1,280.50 each month at a part-time job. The student pays the following amounts for expenses each month:

Rent.....	\$350.00
Food.....	\$320.00
Utilities.....	\$215.60
Car expenses	\$240.00

After paying the monthly expenses listed above, which of the following represents the amount of money the student has left for other expenses?

- A. \$106.70
- B. \$154.90
- C. \$1,075.60
- D. \$1,125.60

**SCIENCE SAMPLE QUESTIONS**

5. Which of the following characteristics is a property of bases?

- A. Taste sour
- B. Dissolve metals
- C. Turn blue litmus red
- D. Liberate OH<sup>-</sup> in solution

6. The bladder is part of which of the following systems?

- A. Urinary
- B. Nervous
- C. Muscular
- D. Cardiovascular





**ENGLISH AND LANGUAGE USAGE SAMPLE QUESTIONS**

7. The rapacity of our vile, disgusting, and despicable stepfather was not satisfied until he had taken all that we had.

Which of the following words are redundant in the sentence above?

- A. rapacity, vile
- B. vile, disgusting
- C. rapacity, despicable
- D. disgusting, despicable

8. Jennifer mailed a sympathy card to the family of the dead man in a hurry.

Which of the following phrases is misplaced in the sentence above?

- A. in a hurry
- B. to the family
- C. of the dead man
- D. Jennifer mailed a sympathy card

**SOLUTIONS TO SAMPLE QUESTIONS**

<b>Sample Question Number</b>	<b>Answer</b>
1	C
2	D
3	D
4	B
5	D
6	A
7	B
8	A