

Pharmacology

Event Category: Health Science.....

Eligible Divisions: Secondary & Postsecondary/ Collegiate	Round One: 50 Q test (60 minutes)	Digital Upload: NO
Solo Event: 1 competitor	HOSA will provide a handheld calculator for this test.	



New for 2026-2027

Editorial changes have been made.

TEXAS HOSA

Make sure to read the *Texas General Rules and Regulations* for the updated “**Electronic Device Policy**”

Area Spring Leadership Conference This event only has one round. The online test for Area will be given in December. Make sure to read the “Texas HOSA Handbook- Section G” for online testing procedure. The top 3 individual scores from each Area will advance to the State Leadership Conference.

Texas State Leadership Conference

The State written exam will be given in person in Irving, Tx to those who advanced from each Area. No study materials permitted. The top 3 individual scores from State will advance to ILC.

Event Summary

Pharmacology provides HOSA members with the opportunity to gain knowledge and skills regarding the area of healthcare concerned with drug uses, effects, and modes of action. This competitive event consists of a written test. In the event of a tie, the essay will be judged to break the tie. It aims to inspire members to learn about drugs' actions on the body, proper administration, and adaptations for different patients and conditions.

Sponsorship

HOSA-Future Health Professionals appreciates the sponsorship of Pharmacology by Dean Vaughn . Dean Vaughn has developed a special landing page for HOSA competitors and advisors for the course.	
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General Event Information

General Rules	Competitors must be familiar with and adhere to the General Rules and Regulations .
Dress Code	Proper business attire or official HOSA uniform. Bonus points will be awarded for proper dress .
Competitors Must Provide	• Photo ID • Two #2 lead pencils (not mechanical) with an eraser • Neon colored foam earplugs, NOT earbuds, for noise control (optional) HOSA Conference Staff will provide equipment and supplies listed in Appendix I .

Official References	The references below are used in the development of the test questions: • Moini, Jahangir. <i>The Pharmacy Technician: A Comprehensive Approach</i>. Cengage Learning. Latest edition. • Ford, Susan and Sally Roach. <i>Introductory Clinical Pharmacology</i>. Wolters Kluwer, Latest edition. • Dean Vaughn's Pharmacology by Body System online: https://deanvaughn.com/pharmacology-hosa/
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ROUND ONE- Test

Test Instructions	All competitors will be given a test and test answer sheet. The written test will consist of 50 multiple choice questions in a maximum of 60 minutes. See test instructions here. An essay tiebreaker question will be administered with the original test. Essay tiebreakers will be completed on the back of the test answer sheet.
Time Remaining Announcements	There will be NO verbal announcements for time remaining during ILC testing. All ILC testing will be completed in the Testing Center, and competitors are responsible for monitoring their own time.
Written Test Plan	The test plan for the Pharmacology Test is: • Basic Concepts in Pharmacology - 15% • Ethical and Legal Responsibilities - 10% • Pediatrics and Geriatrics Adaptations - 10% • Drug Names, Classifications, Actions, and Interactions - 30% • Drug Administration - 20% • Drug Measurement, Dosage, Conversions - 10% • Technologies in Pharmacology - 5% • (Safety will be integrated throughout the test plan) At the International Leadership Conference, HOSA will provide basic handheld calculators (no graphing calculators) for addition, subtraction, division, multiplication, and square root calculations. Personal calculators are NOT allowed.
Rounding	1. Converting between measurement systems often yields a different answer depending on which systems and conversions are used. However, the answer to a calculation problem will ultimately be the same after appropriate rounding. When determining a solution, round only the final answer after completing all calculation steps. 2. When rounding decimal numbers to the nearest tenths, hundredths, or thousandths place, look to the immediate right of the digit located in the position to be rounded. If the number to the direct right is 5 or larger, round up one number and drop everything that follows. If the number to the direct right is 4 or smaller, leave the position being rounded as is and drop everything that follows. 3. In specific situations, answers will be rounded per medical protocol. For example, pediatric dosage is always rounded DOWN to avoid potential overdose. Unless otherwise indicated, all answers should be rounded to the nearest whole number. (Examples: 31.249 (rounded down) = 31 and 23.75 (rounded up) = 24).
Use of Zero	Decimal expressions of less than 1 should be preceded by a zero – “leading zero.” A whole number should never be followed by a decimal point and a zero – “trailing zero.”

Sample Test Questions	1. What U.S. federal legislation established financial incentives for the development and marketing of drugs for the treatment of rare diseases? (Moini pp 5) A. Amendment to Applications for FDA Approval to Market New Drug B. Drug Regulation and Reform Act of 1978 C. Omnibus Budget Reconciliation Act D. Orphan Drug Act of 1983 2. A client who has been taking salicylates for an extended period of time should be watched closely for which of the following adverse reactions? (Ford pp 166) A. GI bleeding B. Fever of undetermined origin C. Hypotension D. Diminished urinary output
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	3. Dramamine 25 mg po is ordered for nausea and vomiting. The bottle is labeled 5 mg/4mL. How many mL will be given per dose? (Moini pp 164-169) A. 16 mL B. 20 mL C. 40 mL D. 50 mL Solution: $5\text{mg}/4\text{mL} = 1.25\text{ mg/mL}$ $25\text{ mg/dose} \times 1\text{ mL}/1.25\text{mg} = 20\text{ mL/dose}$
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Final Scoring

In the event of a tie, the essay will be judged to break the tie.

Future Opportunities

The HOSA Scholarship program has funding available for HOSA members who have an interest in various health careers! The application process begins January 1, 2027, and can be found here: <https://hosa.org/scholarships/>.

Graduating from high school or completing your postsecondary/collegiate program does not mean your HOSA journey has to end. As a HOSA member, you are eligible to become a HOSA Lifetime Alumni Member- a free and valuable opportunity to remain connected, give back, and help to shape the future of the organization. Learn more and sign up at hosa.org/alumni.