WASHINGTON STATE BOARD OF PHARMACY
Review Form
PHARMACY TECHNICIAN TRAINING PROGRAMS

Type of approval: New Program [X] Re-approval/Renewal: [ ] Date program expired: ________________

Program Type: On-the-Job (OJT): [X] Formal/Academic: [ ] Online: [ ]

Facility/Institution name: Hilltop Pharmacy LLC Credential # (if applicable): ________________

Location Address: 1223 E Division St, Mount Vernon, WA 98274

Mailing Address (if different): ________________

Name of Program Director: Kevin Bingham Phone Number: 360-708-9927

Email Address for Director: bings@valleyint.com

Corporate/Institution Contact Information: ________________

Staff Recommendation: Approved

<table>
<thead>
<tr>
<th>Requirements for all program types:</th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Multicultural health awareness and education effective July 1, 2008 -New requirement RCW 43.70.615</strong></td>
<td>x</td>
<td>See page 5 of this form for complete info.</td>
</tr>
<tr>
<td>1. The training program must adequately prepare the trainee to pass an approved national pharmacy technician certification examination, such that the trainee successfully passes prior to license application.</td>
<td>x</td>
<td>WAC 246-901-060 states proof of passing an NCCA-accredited national certification exam is required for licensure (effective 1/1/09).</td>
</tr>
<tr>
<td>2. Prior to starting an OJT training program in Washington, the trainee is required to show proof of high school graduation or a high school equivalency certificate, such as a GED.</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>3. Minimum of 8 hours of instruction is designated for review of relevant Washington state pharmacy law. This must include access to and use of the WA Pharmacy Commission’s website to obtain the most current information. This is in addition to a review of all other applicable state and federal laws.</td>
<td>x</td>
<td>Out-of-state applicants must submit a completed ‘Verification of Law’ form that is signed off by a pharmacist who is licensed in WA (but does not have to reside here &amp; can have licenses in more than one state).</td>
</tr>
<tr>
<td>4. Trainee is registered with the Pharmacy Commission as a pharmacy assistant prior to starting an OJT program or an externship through an academic program in Washington state.</td>
<td>x</td>
<td>This does not apply to trainees who are in or have completed out-of-state technician training programs that are not physically located in WA.</td>
</tr>
<tr>
<td>5. Director of the program is a registered pharmacist. For WA</td>
<td>[X]</td>
<td>Program directors of WA state</td>
</tr>
</tbody>
</table>

See page 5 of this form for complete info.
state – the director must also be a licensed preceptor. WAC 246-901-050 states that the “director shall be a pharmacist.” Pharmacists directing or supervising the training of pharmacy technicians must meet the same requirements as those of pharmacy intern preceptors. The program director or delegates must sign off on an applicant’s application verifying successful completion of the program.

<table>
<thead>
<tr>
<th>6. Specify the names, license numbers, and training experience of the Director and all program instructors. Describe training responsibilities and functions</th>
<th>x</th>
<th>Eg, 520 hours for OJT programs to include didactic training &amp; supervised work experience training at the pharmacy. 30 credits for academic, vocational, technical, online, and similar types of programs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>7. Length of the program is 12 months or less for whatever is sufficient to meet the requirements in hours and/or credits for either OJT or academic programs. Note that there are 3 types of programs that are recognized: (1) OJT programs at licensed pharmacies; (2) academic programs; &amp; (3) online programs. NOTE: Anyone who works in a pharmacy in WA must be licensed in WA. Trainees are licensed as pharmacy assistants and can only work as technicians</td>
<td>x</td>
<td>The passing scores for the PTCE and ExCPT are each calculated in different ways and not by percentage.</td>
</tr>
<tr>
<td>8. The training and resource materials are current, relevant and are listed by title and publication date, with a description of how they will be used.</td>
<td>x</td>
<td>Changes in director and/or other training personnel do not require resubmission of the entire program for approval.</td>
</tr>
<tr>
<td>9. The minimum passing score for a final exam other than the PTCE or ExCPT is 75%. However, an option is to use proof of passing an NCCA-accredited national technician exam as your program’s final examination.</td>
<td>x</td>
<td>These records must be readily retrievable.</td>
</tr>
<tr>
<td>10. The Pharmacy Commission must be notified in writing or email prior to any significant changes to the program, including change in the Director, course content, and time frames.</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>11. All student-specific records must either be retained on-site and kept for a minimum of 2 years, as well as be made available within 72 hours upon request.</td>
<td>x</td>
<td></td>
</tr>
</tbody>
</table>

### Additional requirements for OTJ programs:

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The program consists of 520 total hours of supervised work experience which includes: didactic instruction and 12 hours of individualized instruction provided when the trainer is not working ‘on-line’. All work experience within this time frame must be supervised by pharmacists and be part of the training program requirements.</td>
<td>x</td>
</tr>
<tr>
<td>2. The program must also include training on job functions that are unique to a particular practice setting (eg, preparing parenteral products; extemporaneous compounding; providing long term care services; etc.). These job functions must be documented on the ancillary utilization plans submitted for review.</td>
<td>x</td>
</tr>
</tbody>
</table>
3. The utilization plans for ancillary personnel are included, namely, pharmacy assistants and technicians. [See the web document on 'Developing a Pharmacy Technician Training Program' for resources.] x

These plans must describe the manner in which ancillary personnel will be utilized. This requirement only applies to pharmacies licensed in WA.

<table>
<thead>
<tr>
<th>Additional requirements for academic programs:</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The academic program consists of a minimum of 2 quarters equal to 30 quarter credits (or equivalent in semester hours) and includes a mandatory externship of a minimum of 160 hours.</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>2. The vocational program consists of a minimum of 800 hours of instruction and includes a mandatory externship of a minimum of 160 hours.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. A comprehensive training manual is provided and includes the following: list of faculty (names, licenses, training experience, &amp; program responsibilities); institutional policies &amp; procedures; description of the Advisory Committee functions &amp; list of members; complete curriculum description &amp; goals; training and testing methods; description of facilities (eg, drug preparation labs, computer labs, etc.) &amp; equipment used; description of the quality assurance program; and anything else relevant to the program and its administration and operations.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. The externship is described by practice site and number of hours spent at each site, as well as description of tasks, expectations and required outcomes. Students in externships are evaluated by their externship site supervisor and their academic program instructor (based on a midterm and final clinical evaluation form, as well as the student's work reports, attendance and performance). Students evaluate their externship experience and include a self-evaluation of each experience. The program's policy and procedure for dealing with negative evaluations of students and by students is included.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Program requirements and expectations are included with a description of what constitutes misconduct and how it is handled. One example would be the criteria for expulsion from the program.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. If the vocational or academic institution is accredited by an accreditation organization and/or licensed in a state, provide this information.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Additional requirements for online programs:</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Online programs must meet the same requirements as academic programs.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Program staff must be available to students on a 24-hour basis daily, with a policy &amp; procedure in places for this.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

INCLUDE THE POLICY & PROCEDURE FOR THIS.
ADDITIONAL REQUIREMENTS

1. All programs are approved for a 5-year period and must be submitted for renewal before their expiration date. Typically programs that are submitted for renewal do not have to be presented at a board meeting for re-approval. However, if such a program is completely revamped, a determination will be made if formal board approval will be necessary, at which time your program would be notified.

2. For OJT programs offered through pharmacies that are licensed in Washington and for academic/vocational programs based in Washington, the documented director (or delegates) of a training program must sign the ‘Director’s Certification’. The director may designate delegates who can sign this section of the application on his or her behalf, but a letter must be submitted to the board by the director of the program stating who these delegates are and the effective dates. Any changes to this document must be submitted in writing. If either a director’s or delegate’s names are not on record with the board, this will cause delays in the processing of applications.

3. For pharmacies licensed in Washington, you must maintain an on-site file containing all documentation related to your approved technician training program, including your most current approved ancillary utilization plans. This documentation will be requested as part of the inspection process.

4. Anyone who works in a pharmacy in WA must be licensed in WA. Trainees must first be licensed as pharmacy assistants and can only work as technicians-in-training when they are being trained! Trainees cannot ‘fill in’ as technicians ‘as needed’. Their work experience must be part of the approved training program. And, since proof of passing one of the NCCA-accredited national certification exams is a requirement for licensure, trainees should be preparing for an exam while they’re in training. The training program should be preparing them to take an exam. The national exam should be taken sooner rather than later, meaning that your trainee can’t be a tech-in-training indefinitely, especially after they have completed the training program. At the latest, trainees should be ready to take a national exam when they have just completed a training program.

5. Always remember to access the Board of Pharmacy website for the most current pharmacy technician or assistant applications, as the applications are periodically updated. The same applies for the most current information on Board of Pharmacy laws, rules, policies, guidelines, and the like.

6. Training programs that are reviewed as part of a specific applicant’s application process will only be approved for that applicant. Out-of-state training programs that are interested in obtaining board approval must submit all the documentation requirements listed in the review form above.

Note: 'Formal' academic programs include the following settings: universities; community colleges; technical colleges; technical/community colleges; vocational/technical schools. These are institutional-based programs, whereas OJT programs are employer-based.
NEW REQUIREMENT FOR ALL TRAINING PROGRAMS APPROVED in WASHINGTON

Cultural Competency Resources

The legislature finds that it shall be a priority for the state to develop the knowledge, attitudes, and practice skills of health professionals and those working with diverse populations to achieve a greater understanding of the relationship between culture and health and gender and health. By July 1, 2008, each program with a curriculum to train health professionals for employment in a profession credentialed by a disciplining authority under chapter 18.130 RCW shall integrate into the curriculum instruction in multicultural health as part of its basic education preparation curriculum.

The Washington State Department of Health (department) is pleased to announce a new resource to help health care providers serving diverse populations of patients. A law passed in 2006 requiring all health care providers licensed by the department to receive multicultural health awareness education and training. The Cultural Competency in Health Services and Care – A Guide for Health Care Providers is a tool in that effort. The law did not mandate anything more specific than this. There are no requirements for how the training is conducted, what resources should be used, and number of contact hours or credits. There are many resources for this. A sampling of resources is listed on the review form.

This guide is intended to increase the knowledge, understanding, and skills of those who provide health care in cross-cultural situations. The guide is available on our Web page. We hope it will broaden your awareness of health disparities, provide a better understanding of why cultural competency is important, and illustrate some of the resources available to you. There are several online resources that offer continuing education credits. There are also resources with important information and statistics on the populations you serve.
The complete program of study including resource materials, content of instruction, and detailed program administration must accompany this application as well as a description of the criteria for admission or selection into the training program, and details on how the program will measure the student's proficiency.

<table>
<thead>
<tr>
<th>Application Type</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>☑ Original</td>
<td></td>
</tr>
<tr>
<td>☐ Renewal</td>
<td></td>
</tr>
</tbody>
</table>

Check One

- ☐ Association
- ☐ Corporation
- ☐ Federal Government Agency
- ☑ Limited Liability Company
- ☐ Limited Liability Partnership
- ☐ Limited Partnership
- ☐ Municipality (City)
- ☐ Municipality (County)
- ☐ Non-Profit Corporation
- ☐ Partnership
- ☐ Public Hospital District
- ☐ Sole Proprietor
- ☐ State Government Agency
- ☐ Tribal Government Agency
- ☐ Trust

**1. Demographic Information**

<table>
<thead>
<tr>
<th>UBI #</th>
<th>Federal Tax ID (FEIN) #</th>
</tr>
</thead>
<tbody>
<tr>
<td>604219007</td>
<td>82-4152750</td>
</tr>
</tbody>
</table>

Legal Owner/Operator Name

Kevin Bingham

Mailing Address

1223 E. Division st.

City

Mount Vernon

State

WA

Zip Code

98274

County

Skagit

Phone (enter 10 digit #)

(360) 428-1710

Cell (enter 10 digit #)

360-708-9927

Fax (enter 10 digit #)

(360) 428-7847

Legal Name of Institution or Employer-based Program

Hilltop Pharmacy, LLC

Physical Address

1223 E. Division st

City

Mount Vernon

State

WA

Zip Code

98274

County

Skagit

Facility Phone (enter 10 digit #)

(360) 428-1710

Cell (enter 10 digit #)

360-708-9927

Fax (enter 10 digit #)

(360) 428-7847

Mailing Address

1223 E. Division st.

City

Mount Vernon

State

WA

Zip Code

98274

County

Skagit

Email address

kings@valleyint.com

Web Address

www.RxHilltop.com
2. Type of Program

Please check which type of pharmacy technician education and training program or school.

☐ Formal/Academic Training  ☑ On-the-job Training at a licensed pharmacy  ☐ Vocational Training
☐ Military Training  ☐ Other, explain

3. Contact Information

Name of Contact Person: Kevin Bingham
Title: Pharmacist Owner
Physical Address:
1223 E. Division st
City: Mount Vernon
State: WA
Zip Code: 98274
County: Skagit
Email Address: bings@valleyint.com
Phone (enter 10 digit #): 360-408-1710

4. Program Director Information

Attached additional pages if the training program uses multiple directors.

Name of Program Director:
Kevin Bingham
Title: Pharmacist Owner
Pharmacist Credential Number: PH 00014766
Preceptor Certification Number: PH 00010215
Physical Address:
1223 E. Division st
City: Mount Vernon
State: WA
Zip Code: 98274
County: Skagit
Email Address: bings@valleyint.com
Phone (enter 10 digit #): 360-708-9927

5. Additional Pharmacies and Program Directors

List all pharmacies associated with this training program.

<table>
<thead>
<tr>
<th>Pharmacy Name and Address</th>
<th>Pharmacy License #</th>
<th>Program Director</th>
<th>Pharmacist's License #</th>
</tr>
</thead>
</table>

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I certify that I have received, read, understood, and agree to comply with state laws and rules regulating education and training programs. I also certify that the information herein submitted is true to the best of my knowledge and belief.

[Signature]

Program Director/authorized representative

Date

[Signature]

Print Name

Pharmacist/Owner/Manager

Print Title

Additional Forms and Resources

Pharmacy Webpage

Guidelines to Implementation

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Pharmacy Technician On-The-Job Training Program
2019

Section I

Director and Preceptor:

- Kevin M Bingham, R.Ph., Pharmacy Manager & Owner (PH00014766)
  - Pharmacy Preceptor License (PH60010215); will be the pharmacy director
    of Hilltop Pharmacy, LLC.
  - Has reviewed and approved literature to be utilized during the program.
  - Technician training will occur only under listed preceptor’s supervision.
  - Previous Experience: Has been a preceptor to other technicians as well as
    pharmacy students. 30 plus years as an active working pharmacists,
    manager, and owner.

Section II

Facilities:

- Hilltop Pharmacy, LLC (Phar.CF.60834323)
  1223 East Division Street
  Mt Vernon, WA 98274
  (360) 428-1710
  Class A Pharmacy

Training Type:

- Community (Independent/Retail) Pharmacy Technician Program

Resource Materials:

- Pharmacy Law book 2014, Washington State Department of Health, Board of
  Pharmacy, and the Board of Pharmacy Website for the most up to date laws
- Micromedex Drug Reference, 6200 S. Syracuse Way, Suite 300, Greenwood
  Village, CO 80111
http://www.doh.wa.gov/LicensesPermitsandCertificates/ProfessionsNewReneworUpdate/PharmacyTechnician: Washington State Department of Health Pharmacy Quality Assurance Commission Website
- These materials will form the basis of “classroom” instruction to be heavily supplemented with real world experience during working hours.
- Exams, assessments, and practice problems located within the texts will be used to assess the candidate’s progress.

Section III

Participant Requirements:
- Must have proof of high school diploma or GED
- Must be employed by the pharmacy and have a Pharmacy Assistant license in good standing with the Washington State Pharmacy Quality Assurance Commission
- Must be recommended to the program by the Pharmacy Manager or the Technician Training Program Director

Program Administration:
- 16 weeks and a minimum of 520 hours of instruction
- Minimum of 12 hours of individual instruction
- 8 hours of Washington pharmacy law
- Additional instruction regarding Federal laws pertaining to pharmacy practice

General Content:
- Orientation to Pharmacy Practice
- Pharmacy terminology, abbreviations, symbols, prescription and medication record components, and basic pharmaceutics
- Pharmacy law – state and federal rules governing practice
- Pharmaceutical calculations
- Pharmaceutical compounding and medication weight/measurement
- Aseptic techniques and safety considerations
- Processing the prescription and computer applications
- Ordering, stocking, and other inventory maintenance
- Communication and confidentiality of information
- Medication identification by class and trade/generic names
- Medication dosage forms, administration routes, packaging and labeling, nomenclature, standards, and information sources.
Pharmacy Technician Training Schedule:

Week 1:
- The National Pharmacy Technician Training Program
  - Chapters 1-3
  - Self Assessments and Competency Assessments
- Complete Math Review for the Pharmacy Technician
  - Chapter 1 and Practice Problems

Week 2:
- The National Pharmacy Technician Training Program
  - Chapters 4-6
  - Self Assessments and Competency Assessments
- Complete Math Review for the Pharmacy Technician
  - Chapter 2 and Practice Problems

Week 3:
- The National Pharmacy Technician Training Program
  - Chapters 7-9
  - Self Assessments and Competency Assessments
- Complete Math Review for the Pharmacy Technician
  - Chapter 3 and Practice Problems

Week 4:
- Exam I covering: Chapters 1-9 of NPTTP and 1-3 of CMRPT

Week 5:
- The National Pharmacy Technician Training Program
  - Chapters 10-13
  - Self Assessments and Competency Assessments
- Complete Math Review for the Pharmacy Technician
  - Chapter 4 and Practice Problems

Week 6:
- The National Pharmacy Technician Training Program
  - Chapters 14-15
  - Self Assessments and Competency Assessments
- Complete Math Review for the Pharmacy Technician
  - Chapter 5 and Practice Problems

Week 7:
- Complete Math Review for the Pharmacy Technician
  - Chapters 6-7 and Practice Problems

Week 8:
- Complete Math Review for the Pharmacy Technician
  - Chapters 8-9 and Practice Problems

Week 10:
- Exam II covering: Chapters 10-15 of NPTTP and 4-9 of CMRPT

Week 11:
- Complete Math Review for the Pharmacy Technician
Week 12:
- **Complete Math Review for the Pharmacy Technician**
  - Chapter 13 and Practice Problems
- **Pharmacy Law book 2014 and WA Board of Pharmacy Website**
  - Pages 101-200 (selected)

Week 13:
- Final Exam shall be one of the two National Certification Exams (PTCE or ExCPT) and must be passed satisfactorily according to national standards
- **Pharmacy Law book 2014 and WA Board of Pharmacy Website**
  - Pages 201 – 300 (selected)

Weeks 14-16:
- Review and prepare for Technician Certification Examination
- **Pharmacy Law book 2014 and WA Board of Pharmacy Website**
  - Pages 301 – 586 (selected)

**Additional Instruction:**
- Preceptor and student will meet for about one hour each week (minimum of 12 hours) to discuss any questions/issues the student may have
- Student will demonstrate proficiency in unit-dose medication checking with an accuracy rate of 99% or greater
- Student must demonstrate 100% accuracy during intravenous admixture preparation using facility approved aseptic technique

**Evaluation Procedures:**
- Student will be observed on a daily basis by the preceptor and other experienced members of the pharmacy staff
- All exams/quizzes (including a final written exam) must be passed with a minimum of 75%
- Professionalism, punctuality, honesty and all other core values of Skagit Regional Clinics (Skagit Regional Health) must be upheld to the highest degree

**Documentation Required:**
- Student’s records will be kept on file for a minimum of two years in accordance with Washington State Pharmacy Quality Assurance Commission requirements and shall be made available to the commission within 72 hours of a formal inquiry
- The pharmacy commission shall be notified promptly regarding any changes to the program’s description/implementation procedures.
Hilltop Pharmacy Tech Training 2019
Complete Math Review for the Pharmacy Technician
Chapters 1 & 2 Review Quiz

Review:
Learn the Roman numeral chart on page 2 and the eight rules on page 3.
Learn the conversions on pages 24, 29, 32

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Quiz  
Chapters 1 & 2 Math

Write the corresponding Arabic or Roman numbers for the following:

1. CC =
2. CCCC =
3. XL =
4. IIC =
5. 47 =

Multiply and Reduce the following to lowest terms:

6. \(7 \times \frac{1}{12} =\)

7. \(1 \frac{1}{6} \times 2 \frac{1}{2} =\)

Divide and reduce answers to lowest terms:

8. \(\frac{3}{5} + \frac{4}{5} =\)

9. \(19 \frac{1}{4} + 3 =\)

Add and reduce to lowest terms:
10. \( \frac{3}{8} + \frac{5}{16} = \)

Subtract and reduce to lowest terms:

11. \( \frac{7}{2} - \frac{5}{3} = \)

Convert the following:

12. 4.5 teaspoons = \_________ ml

13. 289 kg = \_________ lb

14. 6.5 lb = \_________ oz

15. 3 L = \_________ ml

16. 1700 g = \_________ kg

17. 150000 mg = \_________ kg

18. 4.8 pints = \_________ ml

19. 64 fluid ounces = \_________ pints

20. 5 \( \frac{3}{4} \) lb = \_________
Quiz Answers Math

1. 200
2. No value
3. 40
4. No value
5. XLVII
6. 7/12
7. 2 11/12
8. 3/4
9. 6 5/12
10. 11/16
11. 6 11/15
12. 22.5ml
13. 635.8lb
14. 104oz
15. 3000ml
16. 1.7kg
17. 0.15kg
18. 2304ml
19. 4 pints
20. 2610.5g

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EXAM 1

Match the appropriate Roman numeral to the corresponding metric numeral:

1. 1 _____ (A): V
2. 5 _____ (B): D
3. 10 _____ (C): L
4. 50 _____ (D): X
5. 100 _____ (E): M
6. 500 _____ (F): C
7. 1000 _____ (G): I

Write the corresponding number:

8. XII =
9. CCCC =
10. XXIX =

Convert the following to improper fractions:

11. 1 7/8 =

Calculate:

12. \( \frac{3}{4} \times \frac{1}{2} = \)

13. 2 3/8 \times \frac{3}{4} =

14. 7/8 + \frac{1}{2} =
15. \( \frac{3}{4} + \frac{6}{9} = \) \\
16. \( \frac{1}{2} - \frac{3}{4} = \)

17. A pharmacist buys sulfur powder at different times in quantities of \( \frac{3}{8} \) pound, 1 \( \frac{1}{2} \) pounds, \( \frac{3}{16} \) pound, and 2 pounds. How much sulfur did she buy?

18. A prescription for 30 capsules requires a total of \( \frac{3}{16} \) ounce of a potent narcotic. How much of the narcotic would be in each capsule?

19. Which is larger 0.57 or 0.098?

Convert the following:

20. \( 400 \text{mcg} \rightarrow \) ______ mg

21. \( 15L \rightarrow \) _____ ml

22. How many fluid ounces are in a fluid cup?

23. How many fluid ounces are in a pint?

24. How many pints in a quart?

25. How many quarts in a gallon?

26. How many ml are in a fluid ounce?

27. How many 4 fluid ounce bottles can be filled from 2 gallons of stock elixir?

28. How many ml (exactly) in 1 gallon?
29. How many lbs are in 1 kg?

30. If a patient weighs 215 lbs, how many kgs does the patient weigh?

31. How many ml in a teaspoon (tsp)?

32. How many tsp in a tablespoon (tbsp)?

33. An injectable product contains 750 mcg per vial. How many vials would be needed to provide a 15 mg dose?

34. A pharmacy technician prepares 3 liters of syrup using 5 lb of sugar. How many grams of sugar would be in a teaspoonful of the syrup?

Convert the following?

35. 1 gram → _____ grains

36. 1 lb → _____ grams

37. 1 oz → _____ grams

38. If a drug contains 25 mg of an expectorant per tablespoon, how much expectorant would be in a quart of this medication?

39. How many milligrams of nitroglycerin are in 60 tablets if each tablet contains $\frac{1}{100}$ grain of nitroglycerin?
Hilltop Pharmacy Tech Training 2019

EXAM 1 ANSWER KEY.

1. 1
2. V
3. X
4. L
5. C
6. D
7. M
8. 12
9. No Value
10. 29
11. 15/8
12. 3/8
13. 57/32
14. 1 ¼
15. 51/36 = 1 5/12
16. ¼
17. 4 1/16 lb sulfur
18. 1/160 oz/capsule
19. 0.57
20. 0.4
21. 15,000ml
22. 8 fl oz
23. 16 fl oz
24. 2 pints
25. 4 quarts
26. 30ml
27. 64 bottles
28. 3840 ml
29. 2.2 lbs
30. 97.73 kg
31. 5 ml
32. 3 tsp
33. 20 vials
34. 3.78 grams
35. 15.4 grains
36. 454 grams
37. 28.4 grams
38. 1600 mg
39. 38.96 mg

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Match:

1) Dose = ______
2) Dosage regimen = ______

- A) Refers to the schedule of medication administration
- B) The quantity of a drug taken by a patient

Interpret the following orders:

3) caps ii p.o. p.c. and h.s.

4) Ancef 1 g IVPB q6h

5) Cortisporin qtt ii a.u. tid

6) Erythromycin opth qtt i O.D. qid x 10d

7) List the required parts of a prescription order:
   a) 
   b) 
   c) 
   d) 
   e) 
   f) 
   g) 

8) If you gave a patient a 4-fluid ounce bottle of cough syrup and it lasted six days, how many teaspoons of the syrup did the patient take each day?
9) A patient is to receive a prescription for tetracycline 250mg capsules and the Sig. is: caps i p.o. qid x 10 days. How many capsules should be dispensed?

10) Regular U-100 insulin contains 100 units of insulin per milliliter. If a patient administers 10 units of insulin q.i.d., how many days will a 10-ml vial last?

11) If the dose of a medication for an infant is 2 mg/lb/day, how much would a 4-kg baby receive in 5 days?

12) An IV solution is ordered to provide a patient 750ml of D5W over 6 hours. How many milliliters a minute would the patient receive?

13) An order is received for 20 mg of haloperidol decanoate to be administered by intramuscular injection. How much of a 0.05-g/ml solution should be given?

14) What does the abbreviation q.s. mean?

15) In the following prescription to be compounded what is the final desired volume?

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzyl benzoate</td>
<td>250ml</td>
</tr>
<tr>
<td>Triethanolamine</td>
<td>5ml</td>
</tr>
<tr>
<td>Oleic acid</td>
<td>20ml</td>
</tr>
<tr>
<td>Purified water, q.s.</td>
<td>1000ml</td>
</tr>
</tbody>
</table>

16) A cold capsule contains 30 mg of pseudoephedrine, 2mg of brompheniramine, and 200mg of ibuprofen. How many grams of each drug are required to make 100 of these cold capsules?

(a) Pseudoephedrine =
17) From the following formula, calculate the number of grams of each ingredient required to prepare 2 kilograms of the ointment:

- Precipitated sulfur: 10g
- Salicylic acid: 2g
- Hydrophilic ointment: 88g

(a) Precipitated sulfur

(b) Salicylic acid

(c) Hydrophilic ointment

18) From the formula in question 17, determine how many grams of each ingredient are required to prepare 60 grams of the ointment:

(a) Precipitated sulfur

(b) Salicylic acid

(c) Hydrophilic ointment
19) The label on a 150-ml bottle of cefaclor 125mg/5ml directs you to add 111ml of water.

(a) How many milligrams of cefaclor are in the bottle?

(b) What is the dry powder volume of cefaclor in the bottle?

(c) If the physician wants you to prepare a cefaclor suspension to contain 100mg/5ml, how much additional water would you add?

(d) Pretend you accidentally reconstituted the cefaclor bottle with 78ml of water. How much cefaclor would be in a teaspoonful of this "incorrectly" reconstituted solution?

(e) How many milliliters of the "messed-up" cefaclor in (d) would provide a 100mg dose?

20) A physician orders 1200ml of normal saline to be infused in 8 hours.

(a) How many milliliters will be infused every hour?

(b) How many milliliters will be infused in 5 minutes.

21) One liter of D5W 1/2NS is to run in an IV for 12 hours.
22) A can of beans 448-gram can of beans contains 2% fat, 28g protein, 2 g sodium, 18g fiber, and 68 g carbohydrate.

(a) What is the percent protein in the beans?

(b) How many grams of fat are in a can?

(c) What percent of the can is not carbohydrate?

23) How many grams of zinc oxide would be in 1lb (one pound) of 5% zinc oxide ointment?

24) A mouthwash contains 0.35% (v/v) of chlorhexidine.

(a) How many milliliters chlorhexidine are in a quart of mouthwash?

(b) If you have a gallon of this mouthwash, what would be the percent strength (v/v) of chlorhexidine in 1 ml of mouthwash?

25) You have on hand 85 grams of iodine.
(a) What would be the percent strength of a gallon of iodine tincture compounded with the 85 grams?

(b) How many milliliters of 3% iodine tincture can be made from the amount of iodine on hand?

(c) How much of a 1:100 iodine tincture can be made from the amount of iodine on hand?

26) Express 0.00005% (w/v) in parts per million.

27) What is the percent alcohol in a mixture of 2 liters of 20% alcohol, 1 liter of 50% alcohol, and 750 ml of 80% alcohol?

28) What is the formula for solving dilution problems?

29) How many milliliters of a 1.7% benzalkonium chloride stock solution would be needed to prepare a liter of 1:200 solution of benzalkonium chloride?

30) How many milligrams of benzalkonium chloride are in a fluid ounce of the dilution prepared in question 29?
31) A 95% alcohol is mixed with 45% alcohol to make a 55% alcohol dilution.

(a) In what proportions should the alcohol be mixed?

(b) How much of the 95% alcohol would be required to prepare a liter of the 55% alcohol?

(c) Using your answer to question 31 b) how much 45% alcohol would be required to prepare the mixture?

(d) How much of the 55% mixture can be prepared by mixing 45% and 95% alcohol solutions if you only have a pint of 95% alcohol and 3 gallons of the 45% alcohol?
1) B
2) A
3) Take 2 capsules by mouth after meals and at bedtime
4) Ancef 1 gram intravenous piggy back every six hours
5) Cortisporin: Instill 2 drops in each ear three times daily
6) Instill 1 drop into the right eye four times daily for 10 days
7) a) Date b) Patient name c) Drug name d) Drug strength e) Route of administration f) dosage schedule g) quantity f) number of refills g) physician signature
8) 4 teaspoons/day
9) 40 capsules
10) 25 days
11) 88 mg
12) 2.1 ml/min
13) 0.4 ml
14) Quantity sufficient
15) 1000ml
16) A) 3000mg b) 200mg c) 20 grams
17) A) 200g b) 40g c) 1760 g
18) A) 6g b) 1.2 g c) 52.8 g
19) A) 3750 mg/bottle b) 39 ml dry volume c) 37.5 ml of additional water d) 160.3 mg/5ml e) 3.12 ml
20) A) 150ml/hr (b) 12.5 ml/5 min
21) A) 312.5ml b) 21gtt/min
22) A) 6.25% protein b) 8.96 g fat c) 84.8% non-carbohydrate
23) 22.7 g zinc oxide (use the ratio method for solving)
24) A) 3.36ml b) 0.35%
25) A) 2.21% b) 2833 ml of a 3% tincture c) 8500 ml of a 1:100 tincture
26) 0.5 ppm
27) 40%
28) (OV) x (O%) = (NV) x (N%)  
29) 29.4ml
30) 150mg
31) A) 10 parts 95% and 40 parts 45%  b) 200 ml of the 95% alcohol  c) 800 ml of the 45% alcohol  d) 2400 ml of 55% can be made
Hilltop Pharmacy, LLC Ancillary Personnel Utilization Plan

Pharmacy Ancillary Personnel Utilization Plan

Purpose

Hilltop Pharmacy, LLC utilizes pharmacy technicians and pharmacy assistants in accordance with the laws of the State of Washington.

Protocol

Pharmacy Assistant Utilization Plan

A Washington state pharmacy licensed assistant may perform, under the supervision and control of a licensed pharmacist, the following duties:

1. File completed prescriptions in will call area.
2. File and retrieve various pharmacy records as requested by the pharmacist.
3. Operate the cash register and duties regarding the front counter.
4. Gather and store up to date patient profile information.
5. Place, receive, unpack, and store drug orders from wholesalers and distributors.
6. Count, Pour, and Label medications for individual prescriptions under direct supervision of a pharmacist. Pulling/retrieval of any medication is strictly reserved to Pharmacy Technicians or Pharmacists.
7. Maintain a proper work area and equipment, which is kept in clean and orderly condition.
8. Handle nonprofessional phone inquiries to/from:
   a. Patients requesting a refill by prescription number.
   b. Calls concerning price information, business hours, the availability of goods and services, and calls regarding drug and supply ordering from wholesalers and distributors.
9. And other such duties and restrictions that the commission may by rule adopt (see references).

Pharmacy Technician Utilization Plan

A Washington state pharmacy licensed technician may perform, under the supervision and control of a licensed pharmacist, all of the duties performed by a pharmacy assistant and certain non discretionary and specialized functions consistent with their training in pharmacy. A pharmacy technician:

1. Files completed prescriptions in will call area.
2. Files and retrieves various pharmacy records as requested by the pharmacist.
3. Operates the cash register and duties regarding the front counter.
4. Gathers and stores up to date patient profile information.
Hilltop Pharmacy, LLC Ancillary Personnel Utilization Plan

5. Places, receives, unpacks, and stores drug orders from wholesalers and distributors.
6. Pulls/Retrieves, Counts, Pours, and Labels medications for individual prescriptions under direct supervision of a pharmacist.
7. Maintains work area and equipment, which is kept in clean and orderly condition.
8. Handles nonprofessional phone inquiries to/from:
   i. Patients requesting a refill by prescription number.
   ii. Calls concerning price information, business hours, the availability of goods and services, and calls regarding drug and supply ordering from wholesalers and distributors.
9. Handles calls with provider offices, insurances, and patients regarding billing and processing of medications.
   i. Also handles calls from provider offices authorizing prescription refills (provided there are no changes to the prescription).
   ii. Reviews patient profiles to retrieve information as directed by a pharmacist.
10. Enters, transcribes, and transmits medications orders.
    i. Submits to third party payer for adjudication if applicable.
11. Obtains stock bottles for prescription filling, reconstitutes medication with diluents, and otherwise prepares prescription medications to be checked by a pharmacist.
12. Provide medication data when no interpretation is required.
13. Entry of a new medication order into the pharmacy computer system and retrieval of the drug product to fill a prescription.
14. And other such duties and restrictions that the commission may by rule adopt.

References

WAC 246-901-090
WAC 246-901-070
DOH 690-143 (8/2004) /updated 2.0 19
RCW 18.64A.030