## APPENDIX C: PTCE CONTENT OUTLINE

### 1. Medications

- **1.1** Generic names, brand names, and classifications of medications
- **1.2** Therapeutic equivalence
- **1.3** Common and life-threatening drug interactions and contraindications (e.g., drug-disease, drug-drug, drug-dietary supplement, drug-laboratory, drug-nutrient)
- **1.4** Strengths/dose, dosage forms, routes of administration, special handling and administration instructions, and duration of drug therapy
- **1.5** Common and severe medication side effects, adverse effects, and allergies
- **1.6** Indications of medications and dietary supplements
- **1.7** Drug stability (e.g., oral suspensions, insulin, reconstitutables, injectables, vaccinations)
- **1.8** Narrow therapeutic index (NTI) medications
- **1.9** Physical and chemical incompatibilities related to non-sterile compounding and reconstitution
- **1.10** Proper storage of medications (e.g., temperature ranges, light sensitivity, restricted access)

### 2. Federal Requirements

- **2.1** Federal requirements for handling and disposal of non-hazardous, hazardous, and pharmaceutical substances and waste
- **2.2** Federal requirements for controlled substance prescriptions (i.e., new, refill, transfer) and DEA controlled substance schedules
- **2.3** Federal requirements (e.g., DEA, FDA) for controlled substances (i.e., receiving, storing, ordering, labeling, dispensing, reverse distribution, take-back programs, and loss or theft of)
- **2.4** Federal requirements for restricted drug programs and related medication processing (e.g., pseudoephedrine, Risk Evaluation and Mitigation Strategies [REMS])
- **2.5** FDA recall requirements (e.g., medications, devices, supplies, supplements, classifications)

### 3. Patient Safety and Quality Assurance

- **3.1** High-alert/risk medications and look-alike/sound-alike [LASA] medications
- **3.2** Error prevention strategies (e.g., prescription or medication order to correct patient, Tall Man lettering, separating inventory, leading and trailing zeros, bar code usage, limit use of error-prone abbreviations)
- **3.3** Issues that require pharmacist intervention (e.g., drug utilization review [DUR], adverse drug event [ADE], OTC recommendation, therapeutic substitution, misuse, adherence, post-immunization follow-up, allergies, drug interactions)
- **3.4** Event reporting procedures (e.g., medication errors, adverse effects, and product integrity, MedWatch, near miss, root-cause analysis [RCA])
- **3.5** Types of prescription errors (e.g., abnormal doses, early refill, incorrect quantity, incorrect patient, incorrect drug)
3.6 Hygiene and cleaning standards (e.g., handwashing, personal protective equipment [PPE], cleaning counting trays, countertop, and equipment)

<table>
<thead>
<tr>
<th>4. Order Entry and Processing</th>
<th>21.25%</th>
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<tbody>
<tr>
<td>4.1* Procedures to compound non-sterile products (e.g., ointments, mixtures, liquids, emulsions, suppositories, enemas)</td>
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<tr>
<td>4.2* Formulas, calculations, ratios, proportions, alligations, conversions, Sig codes (e.g., b.i.d.k, t.i.d., Roman numerals), abbreviations, medical terminology, and symbols for days supply, quantity, dose, concentration, dilutions</td>
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<tr>
<td>4.3* Equipment/supplies required for drug administration (e.g., package size, unit dose, diabetic supplies, spacers, oral and injectable syringes)</td>
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<td>4.4* Lot numbers, expiration dates, and National Drug Code (NDC) numbers</td>
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<tr>
<td>4.5 Procedures for identifying and returning dispensable, non-dispensable, and expired medications and supplies (e.g., credit return, return to stock, reverse distribution)</td>
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</tbody>
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*Some or all of this statement reflects calculation-based knowledge.