

01	☒ A	☐ B	☐ C	☐ D	☐ E
02	☐ A	☐ B	☐ C	☒ D	☐ E
03	☐ A	☐ B	☒ C	☐ D	☐ E
04	☐ A	☒ B	☐ C	☐ D	☐ E
05	☐ A	☒ B	☐ C	☐ D	☐ E
06	☒ A	☐ B	☐ C	☐ D	☐ E
07	☐ A	☐ B	☐ C	☐ D	☒ E
08	☐ A	☐ B	☐ C	☐ D	☒ E
09	☐ A	☒ B	☐ C	☐ D	☐ E
10	☐ A	☐ B	☐ C	☐ D	☒ E
11	☐ A	☐ B	☐ C	☐ D	☒ E
12	☐ A	☐ B	☒ C	☐ D	☐ E
13	☐ A	☒ B	☐ C	☐ D	☐ E

14	☐ A	☐ B	☐ C	☒ D	☐ E
15	☐ A	☐ B	☒ C	☐ D	☐ E
16	☐ A	☐ B	☐ C	☐ D	☒ E
17	☒ A	☐ B	☐ C	☐ D	☐ E
18	☒ A	☐ B	☐ C	☐ D	☐ E
19	☐ A	☐ B	☐ C	☒ D	☐ E
20	☐ A	☐ B	☐ C	☐ D	☒ E
21	☐ A	☐ B	☒ C	☐ D	☐ E
22	☐ A	☒ B	☐ C	☐ D	☐ E
23	☐ A	☐ B	☒ C	☐ D	☐ E
24	☐ A	☒ B	☐ C	☐ D	☐ E
25	☐ A	☐ B	☐ C	☒ D	☐ E
26	☐ A	☐ B	☒ C	☐ D	☐ E

27	☒ A	☐ B	☐ C	☐ D	☐ E
28	☒ A	☐ B	☐ C	☐ D	☐ E
29	☐ A	☐ B	☐ C	☐ D	☒ E
30	☐ A	☐ B	☐ C	☐ D	☒ E
31	☒ A	☐ B	☐ C	☐ D	☐ E
32	☐ A	☒ B	☐ C	☐ D	☐ E
33	☐ A	☐ B	☐ C	☐ D	☒ E
34	☒ A	☐ B	☐ C	☐ D	☐ E
35	☐ A	☒ B	☐ C	☐ D	☐ E
36	☐ A	☐ B	☐ C	☒ D	☐ E
37	☐ A	☐ B	☐ C	☐ D	☒ E
38	☐ A	☐ B	☐ C	☒ D	☐ E
39	☐ A	☒ B	☐ C	☐ D	☐ E

PRACTICE QUESTIONS

PEBC / BEPC - The Pharmacy Examining Board of Canada / Le Bureau des examinateurs en pharmacie du Canada

PQEIF

Examen d'aptitude (pharmaciens) - Partie I (QCM)

EDITION

Demo

QUESTIONS

9

FORMAT

Limited Edition PDF

Before you begin

What this is

9 practice questions for PEBC / BEPC - The Pharmacy Examining Board of Canada / Le Bureau des examinateurs en pharmacie du Canada **PQEIF**, each with its answer key and an explanation. Answer a question before you read its key — the explanation is worth more once you have committed.

If something looks wrong

Send us three things and we will check it:

- the exam code, **PQEIF**
- the question number
- the email address on your order

Write to **support@mometrix.net**. We reply within one business day.

QUESTION 1 SINGLE CHOICE

A patient is started on warfarin for atrial fibrillation. Which of the following best describes the mechanism of action of warfarin?

- ☐ A Direct inhibition of thrombin
- ☐ B Inhibition of platelet aggregation via blockade of the GPIIb/IIIa receptor
- ☒ C Inhibition of the hepatic synthesis of vitamin K–dependent clotting factors (II, VII, IX, X)
- ☐ D Activation of antithrombin III

ANSWER C

WHY Warfarin inhibits vitamin K epoxide reductase, reducing hepatic synthesis of the vitamin K–dependent clotting factors II, VII, IX, and X. Option A describes direct thrombin inhibitors (e.g., dabigatran). Option B describes abciximab/eptifibatide. Option D describes heparin and LMWHs.

QUESTION 2 SINGLE CHOICE

Which pharmacokinetic parameter represents the apparent volume in which the total amount of drug would need to be uniformly distributed to produce the observed plasma concentration?

- ☐ A Clearance (CL)
- ☒ B Volume of distribution (Vd)
- ☐ C Area under the curve (AUC)
- ☐ D Elimination rate constant (k)

ANSWER B

WHY Volume of distribution (Vd) is a theoretical apparent volume relating the total amount of drug in the body to the plasma concentration. Clearance is the volume of plasma cleared of drug per unit time. AUC reflects total exposure over time. The elimination rate constant (k) describes the fraction of drug eliminated per unit time.

QUESTION 3

SINGLE CHOICE

A pharmacist receives a prescription reading "metformin 500 mg PO BID." The patient's profile shows a serum creatinine of 200 $\mu\text{mol/L}$ and an eGFR of 25 mL/min/1.73 m². What is the most appropriate pharmacist action?

- ☐ A Dispense as written because the dose is within the usual range
- ☐ B Dispense metformin at a reduced dose of 250 mg BID
- ☒ C Hold dispensing and contact the prescriber because metformin is contraindicated at this level of renal function
- ☐ D Substitute with an equivalent generic without contacting the prescriber

ANSWER C

WHY Metformin is contraindicated when eGFR is below 30 mL/min/1.73 m² due to the risk of lactic acidosis. The pharmacist should not dispense and must contact the prescriber to discuss an alternative agent. Generic substitution and dose reduction do not address the contraindication.

QUESTION 4

SINGLE CHOICE

When counselling a patient who is starting an inhaled corticosteroid (ICS) for asthma, which instruction is most important to reduce the risk of local adverse effects?

- ☐ A Use the inhaler only during an acute exacerbation
- ☒ B Rinse the mouth with water and spit after each use
- ☐ C Take the dose immediately before going to bed
- ☐ D Double the dose if symptoms worsen during a viral illness

ANSWER B

WHY Rinsing the mouth after using an inhaled corticosteroid reduces the risk of oropharyngeal candidiasis and dysphonia. ICS are maintenance therapy used daily, not rescue therapy. Timing at bedtime is not required, and doses should not be doubled without prescriber direction during acute worsening.

QUESTION 5 SINGLE CHOICE

A drug given as a 100 mg IV bolus has a plasma concentration of 10 mg/L at 2 hours. Assuming first-order elimination, what is the approximate volume of distribution?

- ☐ A 1 L
- ☐ B 5 L
- ☒ C 10 L
- ☐ D 100 L

ANSWER C

WHY Immediately after an IV bolus (time 0), the concentration equals Dose/Vd. Even if a measurement is taken later, the simple estimate of $V_d = \text{Dose} / C_{\text{extrapolated}}$ is used. Using $100 \text{ mg} / 10 \text{ mg/L} = 10 \text{ L}$. (Note: time does not change this basic relationship for the extrapolated C_0 ; a single time-point estimate with a stated concentration is the intended calculation here.)

QUESTION 6 SINGLE CHOICE

Under Canadian pharmacy practice, which of the following activities is most appropriately performed by a pharmacist (rather than a pharmacy technician) within the scope of patient-focused services?

- ☐ A Receiving the prescription from the patient at the counter
- ☐ B Performing the final check of a prepared prescription
- ☒ C Counselling the patient on a new prescription for an oral anticoagulant
- ☐ D Restocking the dispensary shelves from inventory

ANSWER C

WHY Patient counselling on the safe and effective use of a medication—particularly a high-alert drug such as an oral anticoagulant—falls within the professional scope of the pharmacist. Receiving prescriptions, technical checking (where permitted by provincial scope), and restocking are activities generally performed by technicians or regulated pharmacy technicians.

QUESTION 7

SINGLE CHOICE

Which statement best characterizes the mechanism of proton pump inhibitors (PPIs) such as omeprazole?

- ☐ A They are competitive antagonists at the H₂ receptor on gastric parietal cells
- ☒ B They irreversibly inhibit the H⁺/K⁺-ATPase of gastric parietal cells after activation in acidic conditions
- ☐ C They buffer gastric contents through antacid activity
- ☐ D They block muscarinic M₃ receptors, decreasing gastric acid secretion

ANSWER B

WHY PPIs are prodrugs that are activated in the acidic environment of the parietal cell canaliculus, where they covalently bind to and irreversibly inhibit the H⁺/K⁺-ATPase (proton pump). H₂ receptor antagonists (e.g., ranitidine) are competitive antagonists. Antacids neutralize existing acid. Anticholinergics block M₃ receptors.

QUESTION 8

MULTIPLE CHOICE

A patient is taking sertraline for depression and is prescribed tramadol for pain. Which of the following are appropriate pharmacist concerns? (Choose two.)

- ☒ A Increased risk of serotonin syndrome due to combined serotonergic activity
- ☒ B Increased risk of upper GI bleeding because both drugs affect platelet function
- ☐ C Reduced analgesic effect of tramadol because sertraline blocks opioid receptors
- ☐ D Increased risk of QT prolongation requiring baseline ECG

ANSWER A • B

WHY Combining an SSRI (sertraline) with tramadol increases the risk of serotonin syndrome because both have serotonergic activity, and increases bleeding risk because SSRIs impair platelet serotonin uptake. Sertraline does not block opioid receptors. While both can affect QT, this combination is not the classic focus of QT-prolongation concern compared with other agents.

QUESTION 9

MULTIPLE CHOICE

Which of the following are first-line pharmacologic options for the management of type 2 diabetes mellitus according to current Canadian Diabetes Association guidelines? (Choose two.)

- ☒ **A Metformin**
- ☐ **B Glargine (basal) insulin**
- ☐ **C Sulfonylurea (e.g., gliclazide)**
- ☒ **D GLP-1 receptor agonist (e.g., liraglutide)**

ANSWER A • D

WHY Current Diabetes Canada guidelines recommend metformin as first-line glycemic therapy for most patients with type 2 diabetes and a GLP-1 receptor agonist (e.g., liraglutide) as a preferred second-line option in patients with atherosclerotic cardiovascular disease or for weight benefit. Sulfonylureas are no longer preferred first-line due to hypoglycemia and weight gain risk. Basal insulin is reserved for patients with significant hyperglycemia or as later-line therapy.