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39	A	B	C	D	E

PRACTICE QUESTIONS

Kaplan Medical In-Center Simulated Exam

K4P

Kaplan Step 1 Simulated Exam - In Center

EDITION

Demo

QUESTIONS

9

FORMAT

Limited Edition PDF

Before you begin

What this is

9 practice questions for Kaplan Medical In-Center Simulated Exam **K4P**, 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, **K4P**
- 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 45-year-old man is brought to the emergency department by his family after he was found unconscious at home. His blood alcohol concentration is 420 mg/dL. After he is stabilized, the family reports that he has been drinking heavily for the past 10 years, with multiple failed attempts to cut down. He experiences tremor and diaphoresis every morning and often drinks to relieve these symptoms. Which of the following is the most appropriate pharmacotherapy for maintenance of sobriety in this patient after acute withdrawal is managed?

- ☐ A Disulfiram
- ☒ B Naltrexone
- ☐ C Methadone
- ☐ D Bupropion

ANSWER B

WHY Naltrexone is an opioid receptor antagonist that reduces alcohol craving and is FDA-approved for relapse prevention in alcohol use disorder. Disulfiram causes a disulfiram-ethanol reaction and is poor for compliance. Methadone is for opioid use disorder. Bupropion is used for smoking cessation (and depression), not alcohol use disorder.

QUESTION 2

SINGLE CHOICE

A 3-month-old infant presents with intellectual disability, seizures, fair skin, and a musty body odor. Newborn screening results from birth are reviewed and confirm an elevated phenylalanine level. Which of the following is the most appropriate dietary intervention?

- ☐ A Restriction of tyrosine intake
- ☒ B Restriction of phenylalanine intake
- ☐ C High-protein diet with phenylalanine supplementation
- ☐ D Avoidance of galactose-containing foods

ANSWER B

WHY Phenylketonuria (PKU) results from deficiency of phenylalanine hydroxylase, causing accumulation of phenylalanine. Management is dietary restriction of phenylalanine (and supplementation with tyrosine, which becomes essential). Avoiding galactose is for galactosemia.

QUESTION 3

SINGLE CHOICE

A 60-year-old man presents with crushing substernal chest pain and diaphoresis for 2 hours. ECG shows ST elevations in leads II, III, and aVF. Which of the following is the most likely location of the myocardial infarction?

- ☐ A Anterior wall
- ☐ B Lateral wall
- ☒ C Inferior wall
- ☐ D Posterior wall

ANSWER C

WHY ST elevations in leads II, III, and aVF indicate an inferior wall myocardial infarction, typically due to occlusion of the right coronary artery. Anterior wall MI shows changes in V1–V4, lateral in V5–V6/I/aVL.

QUESTION 4 SINGLE CHOICE

A patient with hypertension is started on propranolol. Which of the following best describes the primary mechanism of action of this medication?

- ☐ A Selective inhibition of beta-1 adrenergic receptors
- ☒ B Nonselective beta-adrenergic receptor antagonism
- ☐ C Direct vascular smooth muscle relaxation
- ☐ D Inhibition of angiotensin-converting enzyme

ANSWER B

WHY Propranolol is a nonselective beta-adrenergic receptor antagonist, blocking both beta-1 and beta-2 receptors. Selective beta-1 antagonists include metoprolol and atenolol. ACE inhibitors block the conversion of angiotensin I to II.

QUESTION 5 SINGLE CHOICE

A 35-year-old man who is homeless presents with chronic cough, night sweats, weight loss, and hemoptysis. Chest x-ray shows upper lobe cavitory lesions. Sputum acid-fast stain is positive. Which of the following is the most appropriate initial pharmacotherapy?

- ☐ A Isoniazid alone
- ☒ B Rifampin, isoniazid, pyrazinamide, and ethambutol (RIPE)
- ☐ C Vancomycin and ceftriaxone
- ☐ D Azithromycin monotherapy

ANSWER B

WHY Active tuberculosis is treated with combination therapy to prevent resistance — typically RIPE (rifampin, isoniazid, pyrazinamide, ethambutol). Monotherapy leads to resistance. Vancomycin/ceftriaxone covers typical bacterial pneumonia. Azithromycin is for atypical/atypical mycobacterial infections and not appropriate as monotherapy for active TB.

QUESTION 6

SINGLE CHOICE

A 25-year-old woman with diabetic ketoacidosis has the following arterial blood gas: pH 7.28, PaCO₂ 30 mm Hg, HCO₃⁻ 16 mEq/L. Which of the following best characterizes this acid–base disturbance?

- ☐ A Respiratory acidosis
- ☒ B Metabolic acidosis with respiratory compensation
- ☐ C Metabolic alkalosis with respiratory compensation
- ☐ D Respiratory alkalosis

ANSWER B

WHY A low pH (7.28) with low HCO₃⁻ (16) indicates primary metabolic acidosis. The PaCO₂ is decreased (30), consistent with respiratory compensation (hyperventilation/Kussmaul respirations). This is typical of DKA.

QUESTION 7

SINGLE CHOICE

A 60-year-old man presents with right facial droop that spares the forehead, decreased taste sensation from the anterior two-thirds of the tongue on the right, and decreased lacrimation on the right. Which of the following is the most likely site of the lesion?

- ☐ A Right cerebral cortex
- ☐ B Right internal capsule
- ☐ C Right facial nerve distal to the chorda tympani
- ☒ D Right facial nerve proximal to the chorda tympani

ANSWER D

WHY Lower motor neuron (peripheral) facial nerve palsy spares no part of the face — both upper and lower face are affected. Because taste (chorda tympani) and lacrimation are also impaired, the lesion is proximal to the chorda tympani branch. An upper motor neuron lesion (cortex/internal capsule) spares the forehead because of bilateral cortical innervation.

QUESTION 8

SINGLE CHOICE

A 20-year-old man with a history of allergic rhinitis is exposed to grass pollen and develops sneezing, watery eyes, and nasal congestion within minutes. Which of the following best mediates this reaction?

- ☐ A IgG and complement activation
- ☐ B T cell-mediated cytotoxicity
- ☒ C IgE cross-linking on mast cells with histamine release
- ☐ D Immune complex deposition

ANSWER C

WHY Type I (immediate) hypersensitivity is mediated by IgE bound to mast cells; allergen cross-links IgE, triggering degranulation and release of histamine and other mediators. Type II is antibody-mediated cytotoxicity (IgG/IgM). Type III is immune complex. Type IV is T cell-mediated (delayed).

QUESTION 9

SINGLE CHOICE

A 25-year-old man receives a penicillin injection for strep throat and within 30 minutes develops urticaria, angioedema, bronchospasm, and hypotension. Which of the following best describes the underlying mechanism of this reaction?

- ☐ A IgG-mediated complement activation against basement membrane antigens
- ☒ B IgE-mediated mast cell degranulation with release of histamine and tryptase
- ☐ C T-cell mediated delayed-type hypersensitivity with macrophage activation
- ☐ D Immune complex deposition in small vessels with complement consumption

ANSWER B

WHY This is a classic Type I (immediate) hypersensitivity reaction. Penicillin acts as a hapten and binds to serum proteins, leading to formation of antigen-specific IgE antibodies. On re-exposure, antigen crosslinks IgE bound to FcεRI receptors on mast cells and basophils, causing degranulation and release of preformed mediators (histamine, tryptase) and newly synthesized mediators (leukotrienes, prostaglandins), producing urticaria, bronchospasm, and hypotension—the classic anaphylactic picture. Option A describes Type II hypersensitivity, option C describes Type IV (delayed), and option D describes Type III (immune complex) reactions.