Question 1:
A 20-year-old patient with severe acne has been using topical clindamycin and benzoyl peroxide combination therapy for 6 weeks with minimal improvement. The healthcare provider decides to switch to a different combination therapy. Which alternative combination therapy would be most appropriate for this patient, considering the mechanism of action and potential for resistance?

A. Retinoid and benzoyl peroxide
B. Erythromycin and sulfur
C. Dapsone and azelaic acid
D. Tretinoin and salicylic acid

Answer: D. Tretinoin and salicylic acid
Rationale: Retinoid improves follicular turnover; salicylic acid promotes shedding and prevents comedone formation; avoids more antibiotic resistance.

Question 2:
A patient with open-angle glaucoma experiences dry mouth, ocular hyperemia, and local burning and stinging after starting treatment with a topical medication. Which of the following medications is the most likely cause of these adverse effects?

A. Brimonidine
B. Apraclonidine
C. Latanoprost
D. Betaxolol

Answer: A. Brimonidine
Rationale: Alpha-2 agonists (Brimonidine) cause dry mouth, stinging, redness.

Question 3:
A patient presents with severe nasal congestion associated with allergic rhinitis. The patient reports using an over-the-counter topical sympathomimetic spray for the past 7 days without relief. What is the patient most likely experiencing after using the topical sympathomimetic spray for 7 days?

A. Central nervous system stimulation
B. Cardiovascular effects
C. Rebound congestion
D. Abuse potential

Answer: C. Rebound congestion
Rationale: Topical decongestants used > 3-5 days can cause rebound congestion (rhinitis medicamentosa).
Question 4:
A 35-year-old patient presents to the emergency department with symptoms of acute allergic rhinitis, including sneezing, rhinorrhea, and itching of the eyes, nose, and throat. Which class of medication would be most appropriate for providing symptomatic relief?

A. Nonsteroidal anti-inflammatory drugs (NSAIDs)
B. Oral corticosteroids
C. H2 antagonists
D. H1 antagonists

Answer: D. H1 antagonists
Rationale: First-line treatment for allergic rhinitis is an H1 antihistamine.

Question 5:
A patient with severe nodulocystic acne vulgaris has been taking isotretinoin for three months. They report experiencing severe headache, vision changes, and vomiting. What action should the healthcare provider take?

A. Increase the isotretinoin dose
B. Prescribe a stronger analgesic for headache relief
C. Discontinue isotretinoin and refer to a neurologist
D. Reduce the frequency of isotretinoin administration

Answer: C. Discontinue isotretinoin and refer to a neurologist
Rationale: Severe headache + vision changes = possible pseudotumor cerebri → STOP isotretinoin, urgent neuro eval.

Question 6:
A patient returns to the clinic with persistent symptoms of intense pruritus and erythema in the external auditory canal despite initial treatment with acetic acid solution. Which topical medication should be prescribed next for suspected fungal otitis externa according to the course textbook?

A. Amoxicillin
B. 1% clotrimazole solution
C. Alcohol-based acetic acid solution
D. Hydrocortisone, neomycin, and polymyxin B combination

Answer: B. 1% clotrimazole solution
Rationale: Fungal otitis externa (otomycosis) → first-line is topical antifungal such as clotrimazole.

Question 7:
What is an approved use of topical tretinoin other than acne treatment?

A. Reduction of fine wrinkles
B. Prevention of bacterial infections
C. Relief of pain
D. Treatment of hypertension

Answer: A. Reduction of fine wrinkles
Rationale: Tretinoin is FDA approved for photoaging (fine wrinkles).

Question 8:
A 70-year-old male patient with a history of benign prostatic hyperplasia (BPH) and glaucoma presents to the clinic with symptoms of seasonal allergic rhinitis including sneezing, rhinorrhea, and watery eyes. The patient reports difficulty sleeping due to symptoms. The healthcare provider decides to prescribe an antihistamine for relief. Considering the patient's age and medical history, which antihistamine would be the most appropriate choice?

A. Diphenhydramine
B. Loratadine
C. Hydroxyzine
D. Promethazine

Answer: B. Loratadine
Rationale: Loratadine is a second-generation antihistamine with minimal sedation and less risk of anticholinergic effects—important in elderly and BPH.

Question 9:
An elderly patient with glaucoma presents with orthostatic hypotension. Which class of glaucoma medication is most likely responsible for the orthostatic hypotension in this patient?

A. Prostaglandin analogs
B. β2 agonists
C. Carbonic anhydrase inhibitors
D. Rho kinase inhibitor

Answer: C. Carbonic anhydrase inhibitors
Rationale: Systemic carbonic anhydrase inhibitors (like acetazolamide) can cause hypotension, electrolyte imbalance.
Question 10:
A 25-year-old female presents with severe nodulocystic acne vulgaris that has not responded to topical treatments. She is not pregnant and has no history of depression. Which oral medication would be the most appropriate choice for her initial treatment?

A. Minocycline
B. Vancomycin
C. Erythromycin
D. Tetracycline