

★請依題號順序作答

一、選擇題 I (20%) ※ 注意：請於試卷內之「非選擇題作答區」標明題號依序作答。

1. Which is NOT the adverse effect of amiodarone?
(A) hyperthyroidism (B) blue-grey pigmentation (C) hypothyroidism (D) tachycardia.
2. Losartan is used for the prophylaxis of stroke in the hypertensive patients, because it can
(A) inhibit COX-2 (B) inhibit thromboxan A2 receptor (C) inhibit angiotensin converting enzyme (D) inhibit renin.
3. Aliskiren is a
(A) direct angiotensin converting enzyme inhibitor (B) direct angiotensin II receptor inhibitor (C) direct renin inhibitor (D) direct prorenin receptor inhibitor.
4. Mexiletine is the drug of choice for treating LQT3. Which is its action mechanism?
(A) block sodium channel in inactive state (B) block sodium channel in open state (C) block calcium channel in inactive state (D) block calcium channel in open state.
5. Adenosine can be used to terminate paroxysmal supraventricular tachycardia through the action of
(A) inhibiting A1 receptor activation (B) inhibiting calcium channel and funny channel (C) stimulating A2 receptor (D) activating muscarinic receptor.
6. Which kind of antihypertensive drug can increase the plasma level of angiotensin II?
(A) renin inhibitor (B) angiotensin converting enzyme inhibitor (C) β blocker (D) angiotensin receptor blocker.
7. Which anti-platelet drug is acting through blocking P2Y₁₂ receptor?
(A) cilostazol (B) tirofiban (C) dabigatran (D) clopidogrel.
8. Which is the action mechanism of fondaparinux?
(A) a factor Xa inhibitor (B) a thrombin inhibitor (C) a glycoprotein IIb/IIIa receptor blocker (D) a vitamin K epoxide reductase inhibitor.
9. Which is the potential beneficial effects of nitrates in the treatment of angina?
(A) increase ejection time (B) increase cardiac contractility (C) decrease ventricular volume (D) decrease collateral flow.
10. Ivabradine is used in combination with β -blockers in the patients inadequately controlled by β blockers alone through the mechanism of
(A) blocking I_f (B) blocking I_{Ca} (C) blocking slow inactivation I_{Na} (D) blocking I_{Kr}.

二、選擇題 II (20%) ※ 注意：請於試卷內之「非選擇題作答區」標明題號依序作答。

1. Which of the following is **NOT CORRECT**?
(A) Lansoprazole irreversibly blocks H⁺, K⁺-ATPase on gastric parietal cells to reduce the production of gastric acid.
(B) Ranitidine irreversibly blocks muscarinic cholinergic receptors to increase the motility of stomach.
(C) Misoprostol rescues the gastric side effect of non-steroid anti-inflammatory drugs (NSAIDs) by mimicking the activity of PGE₁.
(D) Mg(OH)₂ can directly neutralize gastric acid to reduce acid-related symptoms.

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2. Which of the following is **NOT CORRECT**?
- (A) Omeprazole is a prodrug. It requires acidic environment for its activation.
 - (B) Metoclopramide increases the motility of colon. In contrast, Mosapride reduces the motility of stomach.
 - (C) Loperamide activates opioid μ receptor to reduce gastrointestinal motility.
 - (D) Scopolamine may reduce abdominal cramping pain, while Erythromycin may induce abdominal cramping pain.
3. Which of the following is **NOT CORRECT**?
- (A) Ursodiol is primarily used to dissolve gallbladder stones. It can also be used to control primary biliary cirrhosis due to its immune modulation effects.
 - (B) Side effects of Sulfasalazine are mainly from Mesalamine (5-ASA). Sulfapyridine is generally very safe.
 - (C) Adalimumab can be used to treat rheumatoid arthritis, psoriasis and inflammatory bowel disease by antagonizing $\text{TNF}\alpha$.
 - (D) Alosetron can be used to stop vomiting and to relieve the symptoms of irritable bowel syndrome.
4. Which of the following is **NOT CORRECT**?
- (A) Entecavir blocks RNA-dependent DNA polymerase of hepatitis B virus (HBV).
 - (B) Sofosbuvir inhibits protease (NS3) of hepatitis D virus (HDV).
 - (C) Interferon can be used to control HBV infection or to eradicate HCV.
 - (D) Antihistamine and anticholinergic drugs can be used to relieve motion sickness.
5. Which of the following is **NOT CORRECT**?
- (A) Ribavirin may be used together with Interferon to treat hepatitis A virus (HAV) infection. Leukocytosis is its major side effect.
 - (B) Aprepitant antagonizes substance P NK_1 receptor to relieve chemotherapy-related emesis.
 - (C) Chlorpromazine targets dopamine D_2 receptor to relieve vomiting and hiccup.
 - (D) Alprazolam potentiates GABA_A receptor to relieve anxiety.
6. Which of the following is **NOT CORRECT**?
- (A) All benzodiazepines (BZDs) are extremely soluble to water, so they are rapidly excreted through kidneys without modification.
 - (B) Diazepam is a long-acting BZD, so it can be used to control status epilepticus. Midazolam is a short-acting BZD, so it can be used for sleep induction.
 - (C) Though not a BZD, Zolpidem also exerts actions through potentiating GABA_A receptors.
 - (D) Barbiturates overdose may induce renal failure.
7. Which of the following is **NOT CORRECT**?
- (A) Similar to Lorazepam, Phenobarbital also activates GABA_A receptor in an allosteric manner, but their binding sites are different.
 - (B) Ramelteon can induce sleep and relieve jetlag, probably through activating melatonin MT_1 receptor.
 - (C) Venlafaxine acts through directly activating AMPA receptors, so it can rapidly relieve anxiety, usually within two days.
 - (D) Propranolol can be used to relieve anxiety-related physiological responses such as palpitation and tremor.

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8. Which of the following is **NOT CORRECT**?

- (A) Isoniazid may induce peripheral neuropathy, which can be prevented by pyridoxine (Vit. B6).
- (B) Ethambutol may induce red-green color blindness.
- (C) Pyrazinamide may induce hyperuricemia and gouty arthritis.
- (D) Rifampin may induce nephrotoxicity presented as orange urine.

三、問答題

1. 試述下列抗菌劑作用之標的 (target) 和臨床用途(10%)

- (1) Amikacin
- (2) Vancomycin
- (3) Ciprofloxacin
- (4) Ceftriaxone
- (5) Amoxicillin + Clavulanic acid

2. 試述下列藥物之藥理作用和主要臨床用途 (10%)

- (1) Hydrochlorothiazide
- (2) Amiloride
- (3) Torsemide
- (4) Cilostazol
- (5) Abciximab

3. 試述下列藥物作用機制和臨床用途 (20%)

- (1) Ergotamine
- (2) Metaproterenol
- (3) Lorcaserin
- (4) Latanoprost
- (5) Liraglutide
- (6) Abatacept
- (7) Praziquantel
- (8) Leflunomide
- (9) Omalizumab
- (10) Oseltamivir

4. What does "a local anesthetic-like effect" mean? (5%)

5. Opioids are still irreplaceable analgesic agents, why? Please also describe the analgesic mechanism of opioids. However, opioids are well-known reinforcing agents. Please explain how opioids induce acute reinforcement. (15%)

試題隨卷繳回