

※ 考生請注意：本試題不可使用計算機。請於答案卷(卡)作答，於本試題紙上作答者，不予計分。

I. Select one optimal answer. (40 points)

1. US FDA recommended the use of alcohol in OTC products for children, at the amount of alcohol in the product shall not
 - (A) Exceed 5% for children aged older than 12 years
 - (B) Exceed 1% for children 6 to 12 years of age
 - (C) Exceed 0.5% for children under 6 years of age
 - (D) Exceed 10 ml of ipecac syrup (1.0%~2.5 % alcohol) in person over 1 years of age

2. Which one is NOT correct for ophthalmic solution?
 - (A) Essentially free from foreign particles
 - (B) Desired pH of 7.4
 - (C) Could use artificial tears as buffering vehicle
 - (D) Add preservatives is needed

3. Rational clinical decision requires systematic summaries of the best available evidence, which one is the first step for evidence-based medicine?
 - (A) Asking the right question
 - (B) Searching for the evidence
 - (C) Appraising the evidence
 - (D) Acting on the evidence

4. Which one is the disadvantage of parenteral administration?
 - (A) Offers one alternative when a patient is unable to take medication by mouth
 - (B) Pain or tissue damage may be associated with the administration
 - (C) When drug taken orally owing to inactivation in the gastrointestinal tract
 - (D) Implantable pumps offer advantages in certain circumstances

5. Which antipsychotics produce the least weight gain?
 - (A) Clozapine
 - (B) Olanzapine
 - (C) Aripiprazole
 - (D) Risperidone

6. To block the initial steps in allograft rejection what immunosuppressive agent is considered to be first line therapy?
 - (A) Corticosteroids
 - (B) Calcineurin inhibitor
 - (C) Azathioprine
 - (D) Mycophenolic acid

7. Which drug is not recommended for mild to moderate Alzheimer disease?
 - (A) Donepezil
 - (B) Rivastigmine
 - (C) Galantamine
 - (D) Memantine

8. Which statement of COPD is NOT correct?
 - (A) Smoking cessation therapy including bupropion, nicotine, and varenicline
 - (B) Indacaterol is one of ultra-long-acting β_2 -agonists
 - (C) FEV1 within 50-80% classified as GOLD 2
 - (D) COPD can cure if bronchodilators used correctly

9. What is the first choice of topical agent for atopic dermatitis?
 - (A) Calcineurin inhibitors (tacrolimus)
 - (B) Anti-IL-4Ra (dupilumab)
 - (C) Corticosteroid
 - (D) Phosphodiesterase-4 (PDE-4) inhibitors (Eucrisa)

10. Which drug is often recommended as first-line therapy for Parkinson disease for elderly?
 - (A) Levodopa
 - (B) Anticholinergic Medications
 - (C) Monoamine Oxidase B Inhibitors
 - (D) Amantadine

11. Which statement for antidepressants is NOT correct?
 - (A) SSRIs are generally chosen as first-line antidepressants
 - (B) Venlafaxine increase the concentrations of NE, 5-HT, and DA within the neuronal synapse through inhibition of the MAO enzyme.
 - (C) Antidepressants are of equivalent efficacy in groups of patients when administered in comparable doses.

- (D) Any antidepressant that increases serotonergic neurotransmission can be associated with serotonin syndrome.
12. Which treatment is suitable for patients with moderate to severe active ulcerative colitis (UC) and for those patients with UC who are corticosteroid dependent?
- (A) Golimumab
 (B) Azathioprine
 (C) Mercaptopurine
 (D) Cyclosporine
13. Which of the following intervention decreases the risk of developing preeclampsia during pregnancy in women at risk for preeclampsia?
- (A) Low-dose aspirin
 (B) Oral calcium supplementation
 (C) Oral lisinopril
 (D) Intravenous magnesium sulfate infusion
14. A 29-year-old woman with 16 weeks of gestation has a prior history of spontaneous preterm birth with her first child. Which of the following therapy should be initiated now to prevent the occurrence of a preterm birth in this singleton pregnancy?
- (A) Terbutaline
 (B) Antenatal corticosteroids
 (C) Intravenous magnesium
 (D) Hydroxyprogesterone
15. In patients with acquired aplastic anemia who are not candidates for hematopoietic stem cell transplantation (HSCT), initial standard treatment includes:
- (A) Cyclosporin monotherapy
 (B) Cyclosporin and antithymocyte globulin (ATG)
 (C) Tacrolimus and ATG
 (D) Sirolimus monotherapy
16. The rationale for cysteine addition to neonatal parenteral nutrition (PN) formulations is to:
- (A) Increase pH of PN formulations
 (B) Provide a conditionally essential nutrient
 (C) Improve long chain fatty acid utilization
 (D) Extend the beyond use date

Read the case 1 and answer the question 17-20

Case 1: A 60 y/o patient arrives to your pharmacy for consultation. His doctor asks you for help on the review of prescription. All his laboratory data, vital signs, and physical examination present normal at goal except for mild retinopathy and chronic kidney disease (eGFR 49 mL/min/1.73m²) with microalbuminuria. Current therapy: metformin 500 mg BID with meals, dapagliflozin 10 mg once daily, lisinopril 40 mg once daily, rosuvastatin 20 mg once daily.

17. The optimal target of HbA1c for this patient is less than?
- (A) 6.5
 - (B) 7.0
 - (C) 7.5
 - (D) 8.0
18. Which medication must be adjusted or stopped?
- (A) Dapagliflozin
 - (B) Metformin
 - (C) Lisinopril
 - (D) Rosuvastatin
19. Sodium glucose cotransporter-2 inhibitors (SGLT2 inhibitors) may result in all of the following situations except:
- (A) Improved satiety
 - (B) Lower blood pressure
 - (C) Promote weight loss
 - (D) Increase the risk of orthostatic hypotension
20. Dipeptidyl peptidase 4 (DPP-4) inhibitors may associate with risks of all events except:
- (A) Very rare cases of severe arthralgia
 - (B) Heart failure
 - (C) Severe immunodeficiency syndrome
 - (D) Severe rash, including Stevens-Johnson syndrome
 - (E) Urinary tract infection

II. For each drug in column, match most relevant description. (20 points)

Abatacept	Anakinra	Bismuth subsalicylate	Etanercept
N-acetylcysteine	Rituximab	Spironolactone	Ticagrelor
Tenofovir	Tocilizumab		

- (A) Bind to CD80/86 on T cells to prevent the co-stimulation.
- (B) Deplete peripheral B cells.
- (C) Initial therapy of chronic hepatitis B, because this drug has a high barrier to resistance.
- (D) Suitable for treatment of liver cirrhosis with massive ascites.
- (E) An antidote for acetaminophen poisoning.
- (F) P2Y₁₂ platelet inhibitor.
- (G) Pro-inflammatory cytokines TNF- α inhibitor.
- (H) Pro-inflammatory cytokines IL-1 inhibitor.
- (I) Pro-inflammatory cytokines IL-6 inhibitor.
- (J) Use to treat diarrhea may interact with anticoagulants, interfere with tetracycline absorption, and interfere with some GI radiographic studies.

III. Questions: (40 points)

1. Patient education on inhaler techniques is very important for successful treatments of respiratory diseases. Please respectively describe the key points of using a (1) turbuhaler and a (2) metered-dose inhaler (MDI) with spacer appropriately while educating patients who required two puffs bid per day.
2. A male patient, 80 kg, with pulmonary embolism. His intravenous order is: heparin (25,000 units/250 ml) loading dose with 70 units/kg IV push and maintenance infusion with 15 units/kg/hour. (1) What is the flow rate for maintenance in ml per hour? (2) What is the flow rate for maintenance in drops per minute? If the administration set delivers 60 drops/ml (3) What kinds of laboratory data should be monitor for adjusting heparin dose?
3. A drug therapy problem is any undesirable event experienced by the patient that involves drug therapy and that actually interferes with a desired patient outcome. Describe common drug therapy problems and their possible causes. For example, unnecessary drug therapy is the problem because of no indication.