

國立成功大學

110學年度碩士班招生考試試題

編 號：283

系 所：臨床藥學與藥物科技研究所

科 目：調劑學

日 期：0203

節 次：第 1 節

備 註：不可使用計算機

※ 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. **A first line treatment option in a patient with bipolar disorder current episode manic is:**
 - (A) Carbamazepine
 - (B) Venlafaxine
 - (C) Lamotrigine
 - (D) Oxcarbazepine
 - (E) Lithium

2. **O.Y. is a 27-year-old male with schizophrenia. This is his second psychiatric hospitalization. He has most recently been treated with risperidone. He currently presents in an acute psychotic episode with fulminate suicidal ideation and a serious suicide attempt prior to hospitalization. Based on this information, which of the following antipsychotics would be the best choice for this patient at the present time?**
 - (A) Clozapine
 - (B) Haloperidol
 - (C) Lurasidone
 - (D) Risperidone
 - (E) Ziprasidone

3. **Which statement concerning treatment of hypertension is CORRECT?**
 - (A) Goal BP of <130/85 mm Hg for most patients.
 - (B) Major goal of treating hypertension is to reduce BP.
 - (C) ACEi can cause acute kidney injury thus is not recommended in CKD patients.
 - (D) Dihydropyridine-CCBs are more potent arterial vasodilators than nondihydropyridines and may cause more peripheral edema.
 - (E) In patients with concurrent hypertension and HFrEF, the first-line choice is a mineralocorticoid receptor antagonist.

4. **Which of the following medication is NOT suggested in treatment of ACC/AHA Stage C or greater stages of HFrEF?**
 - (A) Lasix® 20mg QD
 - (B) Losartan 20mg QD
 - (C) Spironolactone 25mg QD

- (D) 97/103 mg sacubitril/valsartan Q12H
- (E) Digoxin 25mg QD

5. Choose the INCORRECT statement regarding PPIs (proton pump inhibitors) use?

- (A) Long-term adverse effects include hypermagnesemia and vitamin B12 deficiency.
- (B) Increased risk of C. difficile infections.
- (C) PPIs are generally instructed to be given 30 to 60 minutes before meal.
- (D) PPIs provide the greatest symptom relief and the highest healing rates among all acid-suppressing agents.
- (E) Sequential therapy of Helicobacter pylori eradication comprises a PPI, clarithromycin, amoxicillin and metronidazole.

6. Choose CORRECT description of treatment for viral hepatitis?

- (A) Tenofovir alafenamide 300 mg for HBV.
- (B) Tenofovir disoproxil fumarate is a prodrug converted to the active tenofovir in the hepatocyte, allowing for a lower dose at 25 mg.
- (C) Adefovir is considered to be a first-line agent for HBV therapy because of its efficacy and low rates of resistance.
- (D) First-line therapy of hepatitis C is ribavirin + interferon.
- (E) Sofosbuvir/Velpatasvir can be used to treat genotype 2 hepatitis C.

7. A woman diagnosed with gestational diabetes has failed first-line treatment with dietary and lifestyle modifications. Which drug you recommend for a woman who refuses insulin?

- (A) Sitagliptin
- (B) Pioglitazone
- (C) Empagliflozin
- (D) Metformin
- (E) Lixisenatide

8. About the treatment of tuberculosis in adults, which of followings is INCORRECT?

- (A) Isoniazid is the traditional standard drug for treating latent TB infection.
- (B) Pyrazinamide not require dosing adjustment in patients with renal insufficiency.
- (C) The duration for treat latent TB infection with isoniazid and rifapentine is 3 months.
- (D) Rifampin usually is given orally and are best given on an empty stomach.
- (E) Ethambutol should not be given with antacids.

9. Many factors should be considered when checking drug compatibility and stability from references, EXCEPT?

- (A) Time frames
- (B) Concentration of the drugs
- (C) Testing method
- (D) Manufactures of drug container
- (E) Order of mixing

10. Mortars and pestles can be made from a variety of materials and it is important to select the right type for right drugs. Which of the following statement is INCORRECT?

- (A) Wedgewood mortars and pestles are best for reducing the size of dry crystals and hard powder particles and for preparing emulsions.
- (B) Clear glass mortars and pestles are suitable for triturating drugs that stain and efficient in reducing particle size and of powders and especially hard crystals.
- (C) Porcelain mortars and pestles are best for blending powders and for pulverizing soft materials or crystals.
- (D) Electronic mortars are more frequently used for mixing rather than reducing particle size.
- (E) Ceramic mortars are similar to Wedgewood mortars but less durable.

11. About compounding nonsterile products, which of following statement is INCORRECT?

- (A) Quantities of less than 200 mg of substance should not be weighted on a Class III balance with a sensitivity requirement of 6 mg.
- (B) Glass mortars should be used for antineoplastic agents.
- (C) Generally, glass containers have been the most widely used for compounded products due to less interaction with product.
- (D) In general criteria for assigning maximum beyond-use dates, when a USP or NF chemical not from a manufactured final-dosage-form product is used, use no more than six months.
- (E) Each step of the compounding process should be documented.

12. Which drug is associated with irreversible vision loss after long-term use?

- (A) Vigabatrin
- (B) Lacosamide
- (C) Levetiracetam
- (D) Valproate
- (E) Rufinamide

13. A 72-year-old patient with moderate-to-severe parkinson's disease treated with carbidopa/levodopa 25/100 mg three times a day by his primary care physician. He is complaining of nausea and stomach upset since starting the medication. The best recommendation is to:
- (A) Increase the carbidopa/levodopa dose by 50%
 - (B) Switch to rasagiline
 - (C) Switch to a ropinirole
 - (D) Taking carbidopa/levodopa with a nonprotein snack
 - (E) Adding on amantadine
14. A female patient is currently being treated with erythromycin for diabetic gastroparesis. She has painful diabetic peripheral neuropathy and is on numerous adjuvant analgesics with no effect. The decision has been made to place the patient on long-term opioid therapy. Which of the following opioids would you recommend when considering the potential drug-drug interactions?
- (A) Morphine
 - (B) Hydromorphone
 - (C) Oxycodone
 - (D) Fentanyl
 - (E) All above are recommended.
15. About the treatment of intra-abdominal infection in adults, which of followings is INCORRET?
- (A) For most intra-abdominal infections, the antimicrobial regimen should be effective against both aerobic and anaerobic bacteria.
 - (B) Empiric coverage of *Enterococcus* is not necessary in patients with mild-to-moderate community-acquired intra-abdominal infection.
 - (C) For patients with mild-to-moderate community-acquired infections, regimens with substantial anti-pseudomonal activity are required.
 - (D) For patients with peritoneal dialysis, the initial empiric regimens should be active against both gram-positive and gram-negative pathogens.
 - (E) The primary agent for spontaneous bacterial peritonitis in patients with cirrhosis is ceftriaxone or cefotaxime.
16. About the treatment of invasive fungal infection in adults, which of followings is INCORRECT?
- (A) The regimen for non-immunocompromised patient with nonmeningeal *Cryptococcosis* is fluconazole 400 mg orally daily for 6 weeks
 - (B) Voriconazole has emerged as the drug of choice for primary therapy of most patients with invasive aspergillosis
 - (C) Azoles, echinocandins, and deoxycholate amphotericin B are similarly effective for the therapy of

documented candidemia in non-neutropenic patients

- (D) Lipid formulations of amphotericin B can be indicated in patients with impaired renal function, and in those patients who develop nephrotoxicity while receiving deoxycholate amphotericin B.
- (E) Caspofungin is a salvage therapy in patients who are refractory to or intolerant of amphotericin B and/or itraconazole.

17. About antineoplastic drugs, which of followings is INCORRECT?

- (A) Maximum cumulative dose of conventional daunorubicin is above 550 mg/m² in adults without risk factors for cardiotoxicity.
- (B) Standard infusion solution for oxaliplatin is normal saline.
- (C) Needles or IV administration sets that contain aluminum should not be used in the administration of cisplatin.
- (D) Busulfan may cause seizure, IV benzodiazepines, barbiturates or propofol may be needed if seizures persist or recur.
- (E) Interstitial pneumonia and pulmonary fibrosis which induced by bleomycin are the dose-limiting toxicities.

18. About antineoplastic drugs, which of followings is INCORRECT?

- (A) Paclitaxel should not be stored and administered in a polyvinyl chloride (PVC) container to avoid leaching of the plasticizer diethylexyl- phthalate (DEHP).
- (B) The management for extravasation of doxorubicin is stop infusion immediately, remove needle/cannula, and warm compresses.
- (C) Standard infusion solution for taxotere is 5% glucose water.
- (D) When cisplatin is used with paclitaxel, paclitaxel should be given first.
- (E) Etoposide require to adjust dose in patients with serum creatinine clearance < 50 ml/min.

19. About antineoplastic drugs, which of followings is INCORRECT?

- (A) For patients with breast cancer at pre- or peri-menopausal, the duration of initial tamoxifen is 5 years.
- (B) For prostate cancer stage B2 to C treatment, goserelin may be used in combination with an antiandrogen and radiotherapy.
- (C) Patients with prostate cancer and did not have a bilateral orchiectomy who receiving abiraterone should also receive a gonadotropin-releasing hormone (GnRH) analog concurrently.
- (D) Do not administer bevacizumab products until at least 14 days after major surgery and the wound is adequately healed.
- (E) Irinotecan induced early diarrhea may be accompanied by cholinergic symptoms which may be prevented or ameliorated by atropine. Late diarrhea can be life-threatening and should be treated promptly with loperamide.

20. About the treatment of lung cancer in adults, which of followings is INCORRECT?

- (A) Patients with stage IIIA non-small cell lung cancer (NSCLC) who do not undergo surgery are typically treated with both an active platinum-containing regimen and concurrent radiotherapy.
- (B) First-line therapy for patients with NSCLC with immune sensitive (PD-L1+) tumors is ramucirumab.
- (C) Patients with a tumor that harbors an activating mutation in the EGFR receptor should receive a first-line EGFR tyrosine kinase inhibitor.
- (D) Osimertinib does not require dosing adjustment in patients with renal insufficiency.
- (E) Docetaxel can treat of advanced NSCLC after failure of a platinum-based chemotherapy regimen.

II. For each drug in column, match most relevant description. (15 points)

1. Pembrolizumab	9. Ceftriaxone
2. Megestrol	10. Ipilimumab
3. Gefitinib	11. Ivabradine
4. Lacosamide	12. Inhaled corticosteroid
5. Glecaprevir/Pibrentasvir	13. Short-acting beta-agonist (SABA)
6. Bortezomib	14. Long-acting muscarinic antagonist (LAMA)
7. Albiglutide	15. Bronchodilators
8. Betaxolol	

- A. A medication used in the adjunctive treatment of partial-onset seizures and diabetic neuropathic pain.
- B. A proteasome inhibitor for treating newly diagnosed and relapsed multiple myeloma.
- C. A synthetic progesterone approved to treat anorexia or cachexia.
- D. Blocks EGFR tyrosine kinases and prevents epidermal growth factor-induced proliferation in cell culture.
- E. Treatment of hypertension with glaucoma.
- F. A human programmed death receptor-1 (PD-1)-blocking antibody.
- G. An inhibitor of the cytotoxic T-lymphocyte-associated antigen 4 (CTLA-4).
- H. Treatment of community-acquired bacterial pneumonia and acute bacterial skin infections.
- I. A GLP-1 receptor agonist.

- J. A fixed-dose combination tablet of the hepatitis C virus (HCV) NS3/4A protease inhibitor (PI) and the HCV NS5A inhibitor.
- K. The first-line recommended therapy in COPD group A to C.
- L. Following K., this class of drug is the suggested first-line treatment for COPD group C.
- M. For patients having a COPD exacerbation, this is the preferred treatment due to more rapid onset.
- N. Preferred initial treatment for symptomatic asthma patients, or those with risks for exacerbation.
- O. Blocking the hyperpolarization-activated cyclic nucleotide-gated channel to selectively inhibit I(f)-current.

III Answer the questions (45 points)

1. Health care organizations are turning to electronic clinical decision support systems (CDSSs) to increase quality of patient care and promote a safer environment. To describe the benefits, possible harms and solutions to mitigate the harms of CDSS for pharmaceutical practice.
2. Many countries formed the Pharmacy-Based Immunization Delivery program to make vaccines more accessible to the public. To address the challenges and solution to initiate pharmacist vaccination in Taiwan.
3. The U.S. Food and Drug Administration (FDA) and The European Medicines Agency (EMA) has approved biosimilar medications to treat conditions such as cancer, Crohn's disease, colitis, rheumatoid arthritis, and psoriasis. To describe what data are required for approval of a biosimilar and interchangeable product.