

**ROYAL CIVIL SERVICE COMMISSION
CIVIL SERVICE COMMON EXAMINATION (CSCE) 2010**

PAPER III: SUBJECT SPECIALIZATION FOR B.Sc. Pharmacy

Date :24th November, 2010
Total Marks : 100
Examination time :2.5 hours
Reading time : 15 minutes

1. Read the question properly before proceeding to answer
2. All the answers must be written on the answer sheet provided
3. You are required to answer all the questions in section A
4. The section B consists of two case studies. You are required to answer only one case study which carries 50 marks
5. The section A consists of two parts; part I which is the objective type question, 30 questions of 1 mark each. Part II consists of four questions which carries 5 marks each.
6. For the objective type question write down the question number and the correct answer against it
Example
21. a
22. c
23. b
7. Answer the short question in part II of section A in brief and to the point
8. Before submitting the paper mention the number of answer sheets attached to ensure that the papers are not lost or tampered with
9. Number of answered sheets attached

**CIVIL SERVICE COMMON EXAMINATION 2010
TECHNICAL GRADUATE SELECTION EXAMINATION
PAPER III: SUBJECT SPECIALIZATION**

SECTION A: 50% of marks

I. Multiple choice question: Answer in separate sheet as per above instruction (1x30marks)

1. What diuretic therapeutic group does Mannitol belong?
 - a. Thiazide diuretic
 - b. Osmotic diuretic
 - c. Loop diuretic
 - d. Potassium sparing diuretic

2. As per the national STI guideline the first line treatment for Gonorrhoea is
 - a. Penicilin
 - b. Doxycycline
 - c. Erythromycin
 - d. Ceftriaxone

3. Which of the following would be the **most appropriate** information to give the parent of a 2-year-old child who is to receive amoxicillin suspension for the treatment of acute otitis media?
 - a. Avoid dairy products while taking this medication.
 - b. Avoid prolonged exposure to the sun.
 - c. Doses must be taken on an empty stomach.
 - d. Shake well before each dose.

4. The concept of preventing medication errors in the pharmacy is **best** characterized by a process that
 - i. Focuses on individuals.
 - ii. Establishes a disciplinary policy.
 - iii. Monitors errors over time.
 - iv. Reviews dispensing processes.
 - a. i and ii only
 - b. i and iii only
 - c. ii and iv only
 - d. iii and iv only

5. At a minimum, the adverse drug reaction monitoring and reporting program at a hospital should include which of the following?
 1. Disseminating adverse drug reaction information for educational purposes
 2. Reporting all adverse drug reactions to the DRA
 3. Notifying the prescriber of any suspected adverse drug reaction
 4. Informing the drug manufacturer of every adverse drug reaction
 - a. 1 and 3
 - b. 1 and 4
 - c. 2 and 3
 - d. 2 and 4

6. A patient who recently started taking atenolol comes into the pharmacy with a blood pressure of 132/78 mm Hg and a pulse of 54 beats per minute. Which of the following is the most appropriate action by the pharmacist?
 - a. Advise the patient that these are normal values and not to worry.
 - b. Advise the patient to discontinue atenolol immediately.
 - c. Call the physician and suggest that metoprolol might have a less pronounced effect on the patient's heart rate.
 - d. Ask the patient if he has noted any dizziness standing or decreased exercise tolerance.

7. A patient has just been counseled on the appropriate use of her new prescription for isoniazid. Which of the following statements would verify that the patient has a good understanding of the possible side effects of this drug?
 - a. "This medication can cause stiffness in my joints."
 - b. "This medication can change the color of my urine to red."
 - c. "I need to wear sunscreen outside while I'm taking this drug."
 - d. "I should report flu-like symptoms to my doctor."

8. A pharmacist is NOT required to initiate patient consultation when
 - a. The prescription is a refill, but the dose is changed.
 - b. The patient refuses consultation.
 - c. Appropriate auxiliary labels have been attached.
 - d. The patient does not speak Dzongkha/English.

9. Which of the following should be used to assess the quality of care provided by a hospital pharmacist to patients receiving oral anticoagulation therapy?
 - a. the number of patients seen per month
 - b. the number of patients with a warfarin rash
 - c. the number of hospitalizations due to GI bleeding
 - d. the number of people outside the hospital

10. A patient has been taking an opioid analgesic for the past three months for back pain resulting from a car accident. All of the following behaviors could be indicators of a developing addiction disorder, **except**:
- Incidents of lost prescriptions.
 - Frequent requests for early refills.
 - Prescriptions from multiple physicians.
 - Patient concerns regarding side effects.
11. Which of the following is the most appropriate method for a pharmacist to recommend to patients for safe disposal of unused medications?
- By return to the pharmacy
 - By gifting to friends and family
 - Through flushing to the local sewage system
 - Through the municipal waste collection system
12. Which of the following actions would **not** contribute to promoting a safe medication use system in a pharmacy?
- Providing patients with information on medications
 - Attention to environmental conditions in the pharmacy
 - Offering developmental programs for staff education
 - Rotating staff regularly to assume different responsibilities and tasks
13. Which of the following is **not** a benefit of performing medication reconciliation activities in a hospital setting?
- Reduction of medication errors
 - Reduction of inventory pilferage
 - Reduction of preventable adverse effects
 - Assessment of patient adherence to therapy
14. Factors that determine bioequivalence of two brands of a drug include:
- The taste of the preparations.
 - The physical appearance of the preparations.
 - Pharmacokinetic parameters of the preparations.
- 1 only
 - 3 only
 - 1 and 2 only
 - 2 and 3 only

15. During a busy period in the pharmacy, a regular patient comes in for refills. Inadvertently, the vial he receives for atorvastatin contains atenolol instead. If this error is not identified and corrected, then what is the most likely effect to be experienced by this patient?
- Diarrhea
 - Heartburn
 - Blurry vision
 - Lightheadedness
16. Given that 30 g of a mild corticosteroid ointment covers the entire surface of any adult for one application, how much ointment (in grams) should be dispensed for an 23 year old patient who requires treatment on approximately 20% of his body with twice daily application for 14 days?
- 12 g
 - 84 g
 - 124 g
 - 168 g
17. A pharmacist is conducting public education sessions on the role of inhaled medications in patients with asthma. Which of the following is the most appropriate indicator of improved asthma control?
- Decrease in the number of bronchodilator doses used prior to exercise.
 - Decrease in the number of bronchodilator doses used per month.
 - Decrease in the number of corticosteroid doses used per month.
 - Increase in the number of bronchodilator prescriptions filled per month.
18. All of the following are appropriate suggestions for a pharmacist to give to a patient with allergic rhinitis (hay fever) from multiple environmental triggers, to minimize exposure to possible allergens, except:
- Open windows to get fresh air into the home.
 - Clean and vacuum on a regular basis.
 - Wash bed linens regularly in hot water.
 - Use mattress and pillow covers.
19. The ethical principle of veracity requires that pharmacists:
- Respect the rights of others to make choices.
 - Do good to patients, placing the benefit of the patient over other factors such as cost.
 - Avoid, remove or prevent harm.
 - Act with honesty, without deception.
20. All the following drugs are Beta-blockers except
- Atenolol
 - Propranolol
 - Carvedilol
 - Nifedipine

21. Which of the following drugs requires administration on an empty stomach?
- Naproxen
 - Isoniazid
 - Prednisone
 - Metformin
22. An example of a major drug-drug interaction would be:
- Warfarin-aspirin.
 - Digoxin-diltiazem.
 - Penicillin-cephalexin.
 - Hydrocodone-codeine.
23. Hospitals or managed health-care organizations list drugs that have been approved for use on the basis of therapeutic and economic considerations. What is the common name of such a list of drugs?
- Therapeutic compendium
 - Controlled drug compendium.
 - Investigational drug list.
 - Formulary.
24. The maximum dose of Paracetamol within 24 hours is
- 15mg/kg
 - 20mg/kg
 - 40mg/kg
 - 60mg/kg
25. To dispense an order calling for: prednisone 5 mg, one t.i.d. X 3 days; one b.i.d. X 3 days; one q.d. X 3 days, the total medication needed is:
- 15 tablets.
 - 18 tablets.
 - 21 tablets.
 - 24 tablets.
26. Diazepam 5mg tablet was prescribed as 1tab h.s, what will you advise to the patient?
- To take one tablet in the morning
 - To take one tablet with meals
 - To take one tablet at bed time
 - To take one tablet after dinner

27. Medicinal products in Bhutan are regulated by
- Bhutan Agriculture Food Regulatory Authority (BAFRA)
 - Drug Regulatory Authority (DRA)
 - Quality and Standardization Division (QASD)
 - None of the above
28. The Bhutan medicines Board was constituted as per the Medicines Act of the Kingdom of Bhutan 2003 and advises the government on technical matters connected with
- The manufacture of medicines
 - The import and sale of medicines
 - Distribution of medicines
 - Manufacture and sale of medical devices
- 1, 2 & 3
 - 1 & 2 only
 - 2 & 3 only
 - 4 only
29. Which of the following is not an anti-diabetic agent
- Insulin
 - Metformin
 - Glibenclamide
 - Ketoconazole
30. There is potential for drug interaction to occur several weeks after the Amiodarone treatment is stopped because
- it has short half life
 - it has long half life
 - it has no half life
 - None of the above

II. Short answer questions of 4 marks each (5x4 = 20 marks)

- Briefly explain what you understand by Pharmacovigilance. Give three reasons why it is important in drug safety
- Bhutan is internationally recognized for its successful Essential Drug Program (EDP). Briefly state its two main objectives.
- Mention at least five main inclusion criteria for the selection of drugs to be included in the Essential Drug List.
- Mention five criteria in good dispensing practice that will promote rationale use of Drugs
- Mention at least four things that must be included in the prescription writing.

**SECTION B: There are two case studies: Attempt one case study only
(50marks)**

CASE STUDY 1:

Mr. Sangay, 49/m was brought with c/o pain, swelling and sore left arm. His past medical history revealed Type II Diabetes mellitus, O/E afebrile, BP 140/90mm of Hg, pulse 90/min. Provisional diagnosis type II diabetes with diabetic foot and was admitted in the medical ward. He was prescribed the following drugs:

1. IVF-normal saline
2. Inj ceftraizone 1 g iv bd
3. Inj cloxacillin 500mg IV 6 hourly
4. Inj plain insulin on sliding scale
5. Vitamin C 500mg twice daily
6. Enapril 5 mg bd
7. Aspirin 75mg od
8. Amlodipine 5mg od
9. Tramadol 1cap sos
10. Tab Lasix 40mg od

He was advised to undertake the following tests:

CBC, HBA1C, FBS, PP, LFT, RFT, S.Creatinine, Urine CS/RE, USG abd, Funduscopy, ECG, X-ray LT. Arm.

- a. What are the indications for the drugs above for Mr. Sangay? (7 marks)

Drug	Indication
Ceftraizone	
Cloxacillin	
plain insulin	
Enalapril	
Aspirin	
Amlodipine	
Tramadol	

- b. Describe the therapeutic group of the above drugs and explain their mechanism of action and the rationale for the use of each one of them in Mr. Sangay's case (15)
- c. Expand each test advised for Mr. Sangay and explain the reason why the tests were done? (12)
- d. What are the different types of diabetes and explain the differences in their therapeutic management? (6)
- e. What are the different types of insulin in terms of their duration of action and provide one example each? (4 marks)
- f. Write one major side effect of Amlodipine, Enalapril, Cloxacillin, Tramadol, Ceftraizone and Insulin? (6 marks)

CASE STUDY II:

Phuntsho is a 48 year old male with a long standing history of psoriasis. Over the last month, a topical corticosteroid has been prescribed for the psoriatic lesions on his face. This site (his face) has not been affected previously. He seeks a refill of the topical corticosteroid prescription.

- a. What are the side effects which the pharmacist should monitor Phuntsho, when looking for the effects of excessive topical corticosteroid use? Explain the two common side effects of excessive use of topical corticosteroids and describe their symptoms (12 marks)
- b. What is the treatment goal of psoriasis therapy for Phuntsho? (2 marks)
- c. What are the body areas for which only low potency topical corticosteroids should be recommended? (2 marks)
- d. List five anti-inflammatory drugs on the Essential drug list of Bhutan. Explain their mode of action and major side effects? (15 marks)
- e. Can Phuntsho's psoriasis possibly be treated with coal tar products? What are the advantages and disadvantages of coal tar products over topical corticosteroids?(6 marks)
- f. What are the counseling points for someone on Betamethasone? What are its contra-indications? What are its side effects? (8 marks)
- g. Name two agents on EDL used as soothing agents of inflammatory skins and state their doses (5marks)

Good Luck