

KATHMANDU UNIVERSITY
End Semester Examination
March/April, 2022

Mark scored:

Level : B. Pharm.
Year : IV

Course : PHAR 412
Semester : II

Exam Roll No. : Time: 30 mins.

F. M. : 20

Registration No.:

Date :

SECTION "A"
[20Q × 1 = 20 marks]

I. Encircle the correct answer.

- Which of the following statements is true?
 - Drug concentration can be measured at each of its' target site
 - As concentration of drug in plasma increases, concentration of drug in most tissues increases proportionally.
 - Drug with a lower EC₅₀ is considered less potent.
 - Upper limit of Dose Response Curve is index of potency.
- "No adequate studies in pregnant women and animal studies are lacking or have shown and adverse effect on foetus" – Which category of drugs used during pregnancy does such drugs belong to?
 - Category D
 - Category B
 - Category C
 - Category X
- Which of the following is not an age related physiological change seen in elderly people?
 - Reduced total body weight
 - Reduced serum albumin level
 - Reduced total body water
 - Reduced total body fat
- Therapeutic Drug Monitoring is useful in all except:
 - Anticonvulsants
 - Antiarrhythmics
 - Antidiabetics
 - Lithium
- Displacement of warfarin from protein binding by aspirin is....
 - Pharmacodynamic DDI
 - Pharmacokinetic DDI
 - Not a DDI
 - Toxicokinetic DDI
- Which of the following Pharmacokinetic parameter relates input rate to maintenance level?
 - Volume of distribution
 - Elimination rate constant
 - Elimination half-life
 - Clearance
- If $C(\text{mg/l}) = 16$; $T(\text{hour}) = 8$ and $C(\text{mg/l}) = 4$; $T(\text{hour}) = 16$. What is the half life?
 - 2 hour
 - 12 hour
 - 4 hour
 - 8 hour
- Neonates are considered to be the age between
 - 0-1 month
 - 0-6 months
 - 0-2 months
 - 0-1 year
- Which of the following statements is true?
 - Digoxin distributes to a lesser extent into the body fluids and tissue.
 - Higher dose of drug is required to achieve a given plasma concentration for drugs with high V_d .
 - At a constant rate of clearance, a drug with high V_d will have a shorter elimination half-life than a drug with lower V_d .
 - Hydrophilic molecules have a high V_d .

10. Administering clarithromycin with warfarin has one of the following effects....
 - a. Decrease in anticoagulant effect of warfarin
 - b. Increase in anticoagulant effect of warfarin
 - c. No change in anticoagulant effect of warfarin
 - d. Potential beneficial effect
11. When a dose of the drug has to be progressively increased over the course of days to maintain rewarding or analgesic effects, it is called:
 - a. Tolerance
 - b. Adaptation
 - c. Relapse
 - d. Aversion
12. Reference level for serum creatinine is:
 - a. 0.6-1.35mg/dL
 - b. 8-20mg/dL
 - c. 0.2-0.3mg/dL
 - d. 0.9-1.8mg/dL
13. Following drugs are used to manage patients with rheumatoid arthritis except:
 - a. DMARDs
 - b. NSAIDs
 - c. Opioid analgesics
 - d. Biological therapies
14. Type of anaemia that occurs with increased MCV.
 - a. Microcytic
 - b. Normocytic
 - c. Macrocytic
 - d. Megacytic
15. Retrobulbar neuritis is induced by which antitubercular regimen?
 - a. Rifampicin
 - b. Ethambutol
 - c. Isoniazide
 - d. Pyrizinamide
16. Dosing cards are used in practice to improve:
 - a. Outcome
 - b. Adherence
 - c. Drug efficacy
 - d. Drug safety
17. Use of N-acetylcysteine is based on the goal of:
 - a. Inhibiting absorption
 - b. Increasing drug elimination
 - c. Inactivating a toxic metabolite
 - d. Decreasing receptor binding
18. Disulfiram acts by inhibitingin alcoholism.
 - a. Dopamine
 - b. Alcohol dehydrogenase
 - c. Aldehyde dehydrogenase
 - d. Serotonin
19. Commonly reported ADR of diuretic class of drug is
 - a. Alopecia
 - b. Rhinitis
 - c. Skin Disorder
 - d. Hypokalemia
20. Which of the following responsibility of the Clinical Pharmacist is indirect patient care area?
 - a. Supervision of drug administration techniques
 - b. Providing drug information to physicians and nurses
 - c. Identify drugs brought into the hospital by patients
 - d. Reviewing of each patient's drug administration forms periodically to ensure all doses have been administered

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Note: Check (✓) the number of each question you have answered in the front page of main answer book (of Sections B, C and D).

SECTION "B"
[5Q × 3 = 15 marks]

II. Answer ANY FIVE questions.

1. Calculate the normal dosing rate for a drug given:
Extent of renal impairment = 0.5
Fraction of drug normally excreted unchanged in urine = 0.7
2. What is the effect of increased body fat in elderly? State with a relevant example.
3. Calculate the Gentamicin dose required to achieve a peak gentamicin concentration of 15 mg/l in a neonate weighing 2 kg (V= 0.5 litre/kg).
4. What do you understand by Hepatic extraction ratio? What is its' implication in the clearance of the drugs? Give examples of high and low clearance drugs.
5. Discuss on dopamine theory of drug addiction.
6. What are various risk factors for cardiovascular diseases, explain.
7. Discuss on paracetamol poisoning and its management.

SECTION "C"
[5Q × 5 = 25 marks]

III. Answer ANY FIVE questions.

8. Classify and describe adverse drug reactions according to Rawling and Thompson classification. What are the various functions of Pharmacovigilance centre? [3+2]
9. Calculate Estimated GFR for a 60-year-old female patient with Scr = 3 mg/dl.
10. What are the possible ways of evaluating hepatic function? Write down the cockroft and gault formula. [3+2]
11. Discuss on various drugs used to treat rheumatoid arthritis.
12. Define *Medication adherence*? What are the key factors effecting medication adherence?
13. What are the goals for treating tuberculosis? Discuss about the diagnostic criteria of Tuberculosis.
14. Discuss on various chelating agents and mechanism of action of EDTA in heavy metal poisoning.

SECTION "D"
[2Q × 7.5 = 15 marks]

IV. Answer ANY TWO questions.

15. Describe the various mechanisms of drug interactions with examples. How is the creatinine clearance calculated in pediatric population?
16. What are the implications of laboratory investigations? Discuss briefly on interpreting laboratory data for Biochemistry and Haematology.
17. Write down:
 - i. Various elimination methods in toxicology. [4]
 - ii. If a dose of gentamicin is administered and a peak plasma concentration is 8 mg/l after the infusion is completed and is 2 mg/l, 6 hours later. Calculate the elimination rate constant. [3.5]