EXAMINATION QUESTION PAPER

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This question paper consists of (8) pages
(excluding this front page)

INSTRUCTIONS:

THERE ARE FIVE (5) QUESTIONS, EACH WORTH 25 MARKS.
QUESTION ONE (1) IS COMPULSORY.
ANSWER ONLY THREE (3) OF THE LAST FOUR (4) QUESTIONS.
PLEASE HAND QUESTION PAPER IN BEFORE LEAVING
EXAMINATION ROOM.

UNIVERSITY OF NAMIBIA
EXAMINATIONS
**QUESTION 1** (COMPULSORY)

a) What is Pharmacology?  (1)

b) Explain Therapeutic Index.  (1)

c) What is plasma halflife and explain the practical implementation of it.  (1)

d) Give correct dosages from the Latin abbreviations in plain correct English.
   i) II qid cc
   ii) 5ml q8h pc
   iii) paa bd x 7/7
   iv) II mane et II nocte ac
   v) 15ml q4h pm ac
   vi) I prn PR  \(6\times\frac{1}{2} = (3)\)

e) What is histamine, where do we find it, how do we counteract histamine release and give one side effect of the treatment.  \(4\times\frac{1}{2} = (2)\)

f) What is a paradoxical reaction.  (1)

g) Describe the term teratogenesis.  (2)

h) State the golden rules of medication + drug use in pregnancy and during lactation.  (1)

i) Give a definition of diureses.  \(4\times\frac{1}{2} = (2)\)

j) State the main side effect of drug hydralazine.  \(2\times\frac{1}{2} = (1)\)

k) States 4 side effects of ACE Inhibitors.  \(4\times\frac{1}{2} = (2)\)

l) In what circumstances can we not use warfarin.  \(4\times\frac{1}{2} = (2)\)

m) Is the use of morphine advisable during labour? Discuss.  \(4\times\frac{1}{2} = (2)\)

n) Give the treatment of acute aspirin poisoning.  (2)
QUESTION 2

1. Describe the pharmacotherapy of peptic ulcers. (5)
2. Describe the treatment of Type 1 Diabetes Mellitus. (5)
3. Describe the mechanism of action of contraception. (5)
4. Describe the pharmacotherapy of hypertension. (7)
5. Describe patient education from the side of the nursing profession around constipation and the use of laxatives. (3)

{25}
1 QUESTION 3

3.1 The following paragraph describes the course of drugs given to a patient in a psychiatric ward. A 25 year old male patient was admitted with a diagnosis of schizophrenia with episodes of depression. He was put on Thoridazine (Melleril). Two days later the patient developed involuntary muscle contractions of his lower limbs. The doctor was notified and Biperidine was prescribed. The contractions stopped and the patient was prepared for discharge with a prescription of Fluphenazine decanoate (moderate), Biperidine and Amitriptyline. A week after discharge, the patient contacted you and stated his dissatisfaction with the treatment. He was also complaining of feelings of depression.

3.1.1 Thoridazine (Melleril) is:

a) a neuroleptic
b) a phenothiazine and tranquillizer
c) a benzodiazepine
d) a+b
e) a+b+c

3.1.2 The involuntary muscle movements of the lower limbs were due to:

a) adverse effects of the phenothiazine
b) the disease pattern of schizophrenia
c) electrolyte disorders in his system
d) drug abuse
e) alcohol abuse

3.1.3 These adverse effects could have been prevented by:

a) doing abloodscreen to detect signs of drug abuse
b) testing his blood alcohol level
c) doing an U+E (urea and electrolyte) test
d) administering diazepam (Valium) to prevent muscle contractions
e) administering biperidine from the start

3.1.4 The reason for the prescription of fluphenazine decanoate (Modecate) was:

a) it is also a phenothiazine
b) it is better for patient compliance because it need not be administered daily
c) it causes no adverse effects
d) it produces no sedation
e) it is a tranquillizer
3.1.5 The reason for the persistent depression is that:

a) it takes several weeks before the Amitriptyline will show an effect  
b) the fluphenazine (Modecate) contributes to this depression  
c) depression is a side-effect of schizophrenia  
d) the biperidine is causing the depression.  

3.2 Match the items in column A with the items in column B. Write only 1e, 2c, 3f etc.

<table>
<thead>
<tr>
<th>COLUMN : A</th>
<th>COLUMN : B</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Morphine</td>
<td>a) a drug that inhibits fibrinolysis after surgery</td>
</tr>
<tr>
<td>2. Warfarin</td>
<td>b) is a hyprotic</td>
</tr>
<tr>
<td>3. Diclofenac Sodium</td>
<td>c) foods like cheese, wines, yeast products should be avoided while taking this drug</td>
</tr>
<tr>
<td>4. Loperamide</td>
<td>d) used to prevent thrombus formation in blood in vivo and in vitro.</td>
</tr>
<tr>
<td>5. Acetazolamide</td>
<td>e) is an indirect-acting anticoagulant and can be taken orally</td>
</tr>
<tr>
<td>6. Protamine Sulfate</td>
<td>f) is used as a diuretic in the treatment of glaucoma</td>
</tr>
<tr>
<td>7. Aminocaproic Acid</td>
<td>g) used to control diarrhea</td>
</tr>
<tr>
<td>8. Anticoagulant</td>
<td>h) used for various forms of arthritis and for acute gout.</td>
</tr>
<tr>
<td>9. Diazepam</td>
<td>i) is a heparin antagonist and is used in cases of overdosage of heparin.</td>
</tr>
<tr>
<td>10. Phenerazine</td>
<td>j) is a potent opioid agonist used for severe pain.</td>
</tr>
</tbody>
</table>
3.3 Give a drug example for the following.

3.3.1 An opioid

3.3.2 A drug that gives hypertrichosis

3.3.3 A drug for the treatment of bipolar depression psychosis

3.3.4 A histamin-receptor (H₂) blocker

3.3.5 A drug for the treatment of myosis

3.3.6 A morphine antagonist

3.3.7 A potassium sparing diuretic

3.3.8 A good stool softener

3.3.9 An adrenergic nerve inhibitor

3.3.10 An anti-emetic drug
# QUESTION 4

4.1 Passage completion

**Instruction**: In the following passage, words or phrases have been omitted and replaced by key numbers. Select the most suitable word or phrase from the appropriate list.

**Passage**

A 72 year old female with heart failure was admitted to your ward. A positive inotropic drug (1) was administered together with a loop diuretic (2). While on these two drugs, the patient developed a slight tachycardia. An inexperienced new doctor prescribed a beta blocker (3) which caused some concern when discovered by the attending senior medical doctor. He changed the beta blocker to a calcium channel blocker (4) which seemed to work quite well. The patient also had some multifocal extrasystoles for which an anti-arrhythmic drug (5) was prescribed. The cause for the extrasystoles was thought to be due to the loss of an electrolyte (6) as an effect of the loop diuretic. When the doctor prescribed the anti-arrhythmic drug, he avoided a certain anti-arrhythmic drug (7) which may depress cardiac function.

The sister in charge of the ward asked you to prepare some emergency drugs just in case it is needed. You prepare a drug for the treatment of bradycardia (8), a drug to administer during a positive cardiac arrest (9) as well as a narcotic analgesic (10) to treat the pulmonary edema that the patient had developed.

**Options for key numbers 1-10**

<table>
<thead>
<tr>
<th></th>
<th>1. a) Propranolol</th>
<th>b) Dopamine</th>
<th>c) Verapamil</th>
<th>d) Atropine</th>
<th>2. a) Mannitol</th>
<th>b) Chlorothiazide</th>
<th>c) Furosemide</th>
<th>d) Spironolactone</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3. a) Verapamil</td>
<td>b) Sodium nitroprusside</td>
<td>c) Glyceryl trinitrate</td>
<td>d) Propranolol</td>
<td>4. a) Verapamil</td>
<td>b) Captopril</td>
<td>c) Xamoterol</td>
<td>d) Dobutamine</td>
</tr>
<tr>
<td></td>
<td>5. a) Digitalis</td>
<td>b) Lignocaine</td>
<td>c) Isosorbide dinitrate</td>
<td>d) a-methyl dopa</td>
<td>6. a) Calcium</td>
<td>b) Chloride</td>
<td>c) Magnesium</td>
<td>d) Potassium</td>
</tr>
</tbody>
</table>
7. a) Lignocaine  b) Prazosin  c) Sodium nitroprusside  d) a-methyl dopa
   9. a) Lignocaine  b) Potassium chloride  c) Adrenalin  d) Sodium bicarbonate

8. a) Atropine  b) Digitalis  c) Verapamil  d) Isordil

10. a) Diazepam  b) Pethidine  c) Chlorpromazine  d) Morphone

4.2 True or false (½ Mark per answer)

1. Side-effects of drugs are unwanted reactions that occur in any dosage and can be uncomfortable.

2. Drug doses for babies cannot be adjusted in the case of renal problems.

3. A paradoxical reaction is an effect opposite to that normally obtained from a particular drug.

4. All hypersensitivity reactions are predictable.

5. Direct acting sympathomimetic drugs act as antagonists at all alpha and beta receptors.

6. Anaphylaxis is an acute shock reaction as a result of an allergy to a specific drug.

7. Direct acting parasympathomimetics act as agonists at muscarinic receptors.

8. Parkinson’s disease is the result of amongst other the death of dopaminergic neurons in the basal nuclei of the extrapyramidal system.

9. The opioid agonists include morphine, pethidine and tilidine.

10. Myosis is the constriction of the normal pupil and can be reversed by the use of atropine drops. (5)

4.3 Describe the procedures to be followed in order to prevent mistakes when administering drugs to a patient (½ mark per fact) (5)
4.4 Describe the treatment (not only drug treatment) of patients with hyperlipidaemia. (An example is an increase in cholesterol). (½ mark per fact) (5)

QUESTION 5

5.1 Indicate the antidotes for the following substances.
5.1.1 Atropine (1)
5.1.2 Benzodiazepines (1)
5.1.3 Digitalis glycosides (1)
5.1.4 Organophosphates (1)
5.1.5 Paracetamol (1) [5]

5.2 Indicate an example of a drug that belongs to the following groups of antibiotics.
5.2.1 Cephalosporins (1)
5.2.2 Aminoglycosides (1)
5.2.3 Tuberculostatics (1) [3]

5.3 Distinguish between a generic name and a trade name. (2)
5.4 Distinguish between the different sources of drugs (5)
5.5 Explain Bipolar depression disorders by means of a summary. 8x½ = (4)

5.6 Describe the treatment of the more chronic gout attack and give examples of drugs to be used. (6) [25]