

2021

PHARMACOLOGY

Paper — I

Full Marks : 100

Time : 3 hours

Answer all questions

The figures in the right-hand margin indicate marks

Use separate answer books for Section-A and Section-B

SECTION — A

1. A patient was taking drug 'A' (plasma half life 12 hrs.) 500 mg, twice daily for his disease. 3 + 3 + 4
 - (a) What is steady state plasma concentration of a drug and at what time drug 'A' will achieve it ? Justify your answer.
 - (b) Differentiate between first order and zero order kinetics.

(Turn Over)

(2)

- (c) Define the different types of drug half lives and mention the clinical significance of plasma half life.

2. Answer the following questions : 5 × 4

- (a) Classify parasympathomimetics and discuss their clinical uses.
- (b) Discuss various types of drug antagonisms with examples.
- (c) Give a note on the limitations of opioids as analgesics.
- (d) What do you mean by microsomal enzyme induction ? Give examples of such inducers. Discuss its clinical significance.

3. Answer the following questions : 2 × 5

- (a) Why long acting β_2 agonists should not be used alone in bronchial asthma ?

(3)

- (b) Name the nasal decongestants. Give a note on their adverse effects.

- (c) Give a note on β_3 agonist.

- (d) Explain why phenoxybenzamine is preferred to prazosin in pheochromocytoma.

- (e) Enumerate the clinical uses of β blockers.

4. Fill in the blanks : 1 × 5

- (a) The prostaglandin analog that is used in erectile dysfunction is _____.
- (b) Niacin flush can be prevented by _____.
- (c) Hydroxychloroquine is preferred to chloroquine in rheumatoid arthritis because _____ is less common with the former.
- (d) _____ is the most commonly used NSAID in gout.

- (e) _____ is an inhalational β_2 agonist with quick onset and long duration of action.

5. Choose the *correct* option : 1 × 5

- (a) Omalizumab is administered in bronchial asthma by which route :

- (i) Subcutaneous
- (ii) Intravenous
- (iii) Intramuscular
- (iv) Inhalational

- (b) Increase in cAMP is caused by

- (i) Somatostatin
- (ii) Acetylcholine
- (iii) α receptor
- (iv) β receptor

- (c) α_1 blocker without any effect on blood pressure is

- (i) Tamsulosin

- (ii) Prazosin
- (iii) Doxazosin
- (iv) Terazosin

- (d) Most appropriate route for adrenaline use in cardiac arrest is

- (i) Intravenous
- (ii) Intracardiac
- (iii) Transdermal
- (iv) Intracoronary

- (e) NSAID given in once daily dose

- (i) Naproxen
- (ii) Ketorolac
- (iii) Piroxicam
- (iv) Aceclofenac

SECTION – B

6. Classify antidepressants. Discuss their mechanisms of action. Give a note on their clinical uses.

3 + 3 + 4

7. Answer the following questions : 5 × 4

(a) A patient suffering from acid peptic disease was advised upper GI endoscopy. He was given a benzodiazepine compound to reduce discomfort during the process.

(i) What is the benzodiazepine of choice for this situation and why?

(ii) What are the important pharmacological effects of benzodiazepines?

(b) Give a classification of antiemetics.

(c) Discuss the drugs used in alcohol dependence.

(d) Classify local anesthetics and discuss their mechanism of action.

8. Answer the following questions : 2 × 5

(a) Z compounds are better hypnotics than benzodiazepines. Why?

(b) Sucralfate is not given after proton pump inhibitor. Why?

(c) Mention the mechanism of action and clinical uses of cyclosporine.

(d) Differentiate between oxytocin and ergometrine.

(e) Explain how haloperidol can produce gynecomastia.

9. Fill in the blanks : 1 × 5

(a) IV anesthetic with antiemetic property is _____.

(b) Slowest acting inhalational anesthetic is _____.

(c) The drug that inhibits inositol monophosphatase is _____.

(d) Antidote in copper toxicity is _____.

(e) _____ is an orally effective iron chelator.

10. Choose the *correct* option :

1 × 5

(a) All of the following are adverse effects of tacrolimus EXCEPT :

- (i) Nephrotoxicity
- (ii) Neurotoxicity
- (iii) Hirsutism
- (iv) Hyperglycemia

(b) One of the following is an immunosuppressant :

- (i) Levamisole
- (ii) BCG
- (iii) Interferon α
- (iv) Infliximab

(c) One of the following is not a bulk purgative :

- (i) Bran
- (ii) Senna
- (iii) Methylcellulose
- (iv) Ispaghula

(d) One of the following is not a drug for Crohn's disease :

- (i) Prednisolone
- (ii) Linaclotide
- (iii) Mesalamine
- (iv) Methotrexate

(e) One of the following is not a principle of bio-ethics :

- (i) Autonomy
 - (ii) Empathy
 - (iii) Justice
 - (iv) Beneficence
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