



Name :
Roll No. :
Invigilator's Signature :

CS/B.OPTM/SEM-3/B0-304/2010-11

2010-11
PHARMACOLOGY
(GENERAL & OCULAR)

Time Allotted : 3 Hours

Full Marks : 70

The figures in the margin indicate full marks.

*Candidates are required to give their answers in their own words
as far as practicable.*

GROUP - A

(Multiple Choice Type Questions)

1. Choose the correct alternatives for any **ten** of the following :
10 × 1 = 10
- i) Viscosity of a substance determines its resistance to
 - a) Friction
 - b) Flow
 - c) Weight
 - d) Leakage.
 - ii) Regarding corneal barriers all the statements are true *except*
 - a) The corneal epithelium is the greatest barrier to ocular drug penetration
 - b) The stroma gives little resistance to drug transport, about $\frac{1}{4}$ that of an aqueous system
 - c) The corneal endothelium is a significant barrier to drug penetration
 - d) Trans-scleral and trans-conjunctival routes contribute to drug passage into the aqueous.

3220

[Turn over



- iii) All of the following are topical NSAIDs used in Ophthalmology *except*
- a) Dorzolamide 2% b) Diclofenac 1%
c) Bromfenac 0.09% d) Ketorolac 0.5%.
- iv) Which of the following is NOT a diuretic ?
- a) Thiazide b) Indapamide
c) Hisinopril d) Furosemide.
- v) The amount (in ml) and strength (in %) of sodium fluorescein used in fundus fluorescein Angiography is
- a) 5 ml of a 10% solution
b) 10 ml of a 6% solution
c) 20 ml of a 3% solution
d) 3 ml of a 25% solution.
- vi) Xerophthalmia should be treated with
- a) Atropine b) Ciprofloxacin
c) Aciclovir d) Vitamin A.
- vii) Morphine is
- a) Synthetic Drug b) Natural Drug
c) Bio-synthetic Drug d) Semi-synthetic Drug.
- viii) Kanu, a farmer from Midnapore, came to the emergency with history of insecticide poisoning. On examination you found he is frothing from mouth and on ocular exam there is pin-point pupil. What is the drug of choice for treatment ?
- a) Atropine b) Neostigmine
c) Physostigmine d) Adrenaline.



- ix) Mydriatic is used to assess
- a) Refractive error
 - b) Posterior segment of the eye
 - c) Intra-ocular Pressure
 - d) Corneal Diameter.
- x) Which one of the following drugs is not an inhalation anaesthetic ?
- a) Nitrous oxide
 - b) Ether
 - c) Ketamine
 - d) Chloroform.
- xi) Which of the following is used for anaesthetising the ocular surface during in-house examination ?
- a) 4% Lignocaine
 - b) Cocaine
 - c) Proparacaine
 - d) Bupivacaine.
- xii) The cardinal feature of general Anesthesia is
- a) Loss of all sensations, specially pain
 - b) Sleep (Unconsciousness) and amnesia
 - c) Immobility & muscle relaxation & abolition of reflexes
 - d) All of these.

GROUP - B

(Short Answer Type Questions)

Answer any *three* of the following. $3 \times 5 = 15$

2. What are viscoelastics ? Name any 2 viscoelastics used in ophthalmology. Discuss their role in modern cataract surgery.
3. Explain how drugs penetrate the cornea.
4. What do you mean by pharmacodynamics and pharmacokinetics ?

CS/B.OPTM/SEM-3/B0-304/2010-11



5. What is meant by Plasma half-life of a drug ?
6. What are Agonist, Antagonist and Inverse Agonist ?
7. Mention the ophthalmic diagnostic drugs.

GROUP - C

(Long Answer Type Questions)

Answer any *three* of the following. $3 \times 15 = 45$

8. Classify anti-glaucoma medications and give one example of each group of drug. Mention the mechanism of action and side-effects of any two of these drugs in detail. $5 + 4 + 3 + 3$
9. What are local anaesthetic agents ? Classify them with examples. With the help of a diagram, discuss the mechanism of action of local anaesthetics. Give the names of two drugs added to local anaesthetics to modify their actions. $2 + 5 + 6 + 2$
10. What is bioavailability of a drug ? Describe the process of absorption, distribution & metabolism of a drug. $5 + 10$
11. What do you mean by NSAIDs ? Give their mechanism of action. Name 2 topically applied NSAID preparations. Give 2 systemic indications of their use in ophthalmic practice. $2 + 9 + 2 + 2$
12. What are the main actions of corticosteroids ? Draw a diagram to explain their mechanism of action. Who or what are steroid responders ? Give the systemic and ocular side effects of corticosteroids. Discuss the principles of corticosteroid therapy. What are the ocular indications for steroid use ? Mention the contraindications when steroids should not be used. $2 + 2 + 1 + 4 + 2 + 2 + 2$
13. Mention different routes of ocular drug delivery with suitable examples. Name and discuss particularly the newer ocular drug delivery systems. $5 + 10$