	/ Ulegh
Name :	A
Roll No.:	A Special O'S amounting and Excellent
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 : $10 \times 1 = 10$

- 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 $^1/_4$ 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

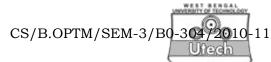
CS/B.OPTM/SEM-3/B0-304/2010-11



- iii) All of the following are topical NSAIDs 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 farmar 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 tratment?
 - a) Atropine
- b) Neostigmine
- c) Physostigmine
- d) Adrenaline.

3220 2



- 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?

3220 3 Turn over

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

4

3220