



FC Ophth(SA) Primary IA

THE COLLEGES OF MEDICINE OF SOUTH AFRICA

Incorporated Association not for gain
Reg No 1955/000003/08

Primary IA Examination for the Fellowship of the
College of Ophthalmologists of South Africa

4 February 2021



Paper 1

Anatomy

(3 hours)

All questions to be answered. Each question to be answered in a separate book (or books if more than one is required for the one answer)

- 1 A woman is preparing dinner and while chopping onions, her eyes start to tear profusely.
 - a) Give a short description of the anatomy of the afferent limb of the reflex arc. (5)
 - b) Give a short description of the anatomy of the efferent limb of the reflex arc. (5)[10]

- 2 A 58-year-old man attended his family general practitioner. Two days previously he had become aware of horizontal diplopia. The images were most widely separated on gaze to the right. Covering either eye caused the diplopia to disappear. He is a well-known diabetic patient, with well-controlled hypertension. On examination a limitation of abduction of the right eye and a moderate right convergent squint was detected. The eyes are otherwise normal as well as the neurological examination.
 - a) Postulate a diagnosis for the clinical presentation of the patient. (2)
 - b) Describe the anatomy of the origin, course and distribution of the affected nerve, with emphasis on the Basilar part (2), Intracavernous part (2), Intra orbital part (2). (6)
 - c) What is the anatomical position of the nerve's nucleus? (2)[10]

- 3 Tabulate the autonomic innervation of the iris providing the origin, position of synapse, postganglionic course and the action. [10]

- 4
 - a) Describe or draw and label the blood supply of the optic nerve head. (5)
 - b) Describe or draw and label the topographical representation of the retinal nerve fibres in the optic chiasm. (5)
 - c) Describe the venous drainage of the orbit. (5)
 - d) Describe the vitreous body including its composition and attachments. (5)[20]



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5 February 2021



Paper 2

Physiology

(3 hours)

All questions to be answered. Each question to be answered in a separate book (or books if more than one is required for the one answer)

- 1
 - a) Discuss the role of myelin in the axonal conduction of action potentials within the optic nerve. (5)
 - b) Write short notes on the diurnal variation of intraocular pressure (IOP). (5)
 - c) Discuss the physiological processes that contribute to the composition of aqueous humour. (5)
 - d) Write short notes on hyaluronic acid. (5)
 - e) Discuss the blood aqueous barrier (BAB). Include its components and function. (5)

[25]

- 2
 - a) Draw the dark adaptation curve including the mixed cone/rod response, pure cone response and pure rod response. (5)
 - b) Discuss the functions of the retinal pigment epithelium. (5)
 - c) Define Entoptic phenomena and provide 2 examples. (5)
 - d) Write short notes on the following
 - i) Adenovirus. (2)
 - ii) Toxoplasma gondii. (2)
 - iii) Prostaglandin F2 alpha agonists. (2)
 - iv) Lyonization. (2)
 - v) Troxler phenomenon. (2)

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