(University of Choice)

MASINDE MULIRO UNIVERSITY OF SCIENCE AND TECHNOLOGY (MMUST)

MAIN CAMPUS

UNIVERSITY EXAMINATIONS
2022/2023 ACADEMIC YEAR
SECOND SEMESTER

MAIN EXAM

FOR THE DEGREE
OF
BACHELOR OF OPTOMETRY

COURSE CODE: BOV 320

COURSE TITLE: CLINICAL OPTOMETRIC PROCEDURES IV:PRE-CLINIC

DATE: **TIME:**

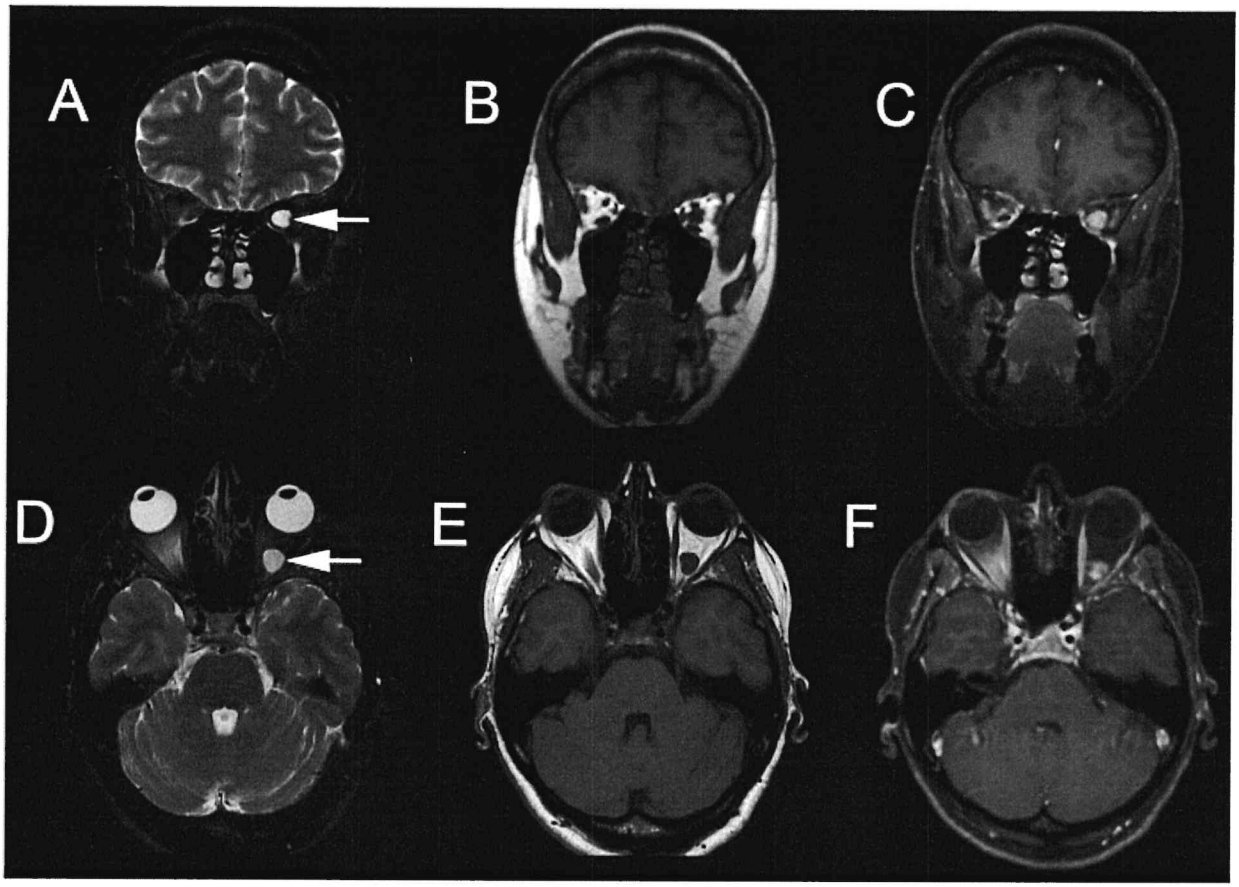
INSTRUCTIONS TO CANDIDATES
Answer all questions

TIME: 2Hours

MMUST observes ZERO tolerance to examination cheating

ANSWER ALL QUESTIONS

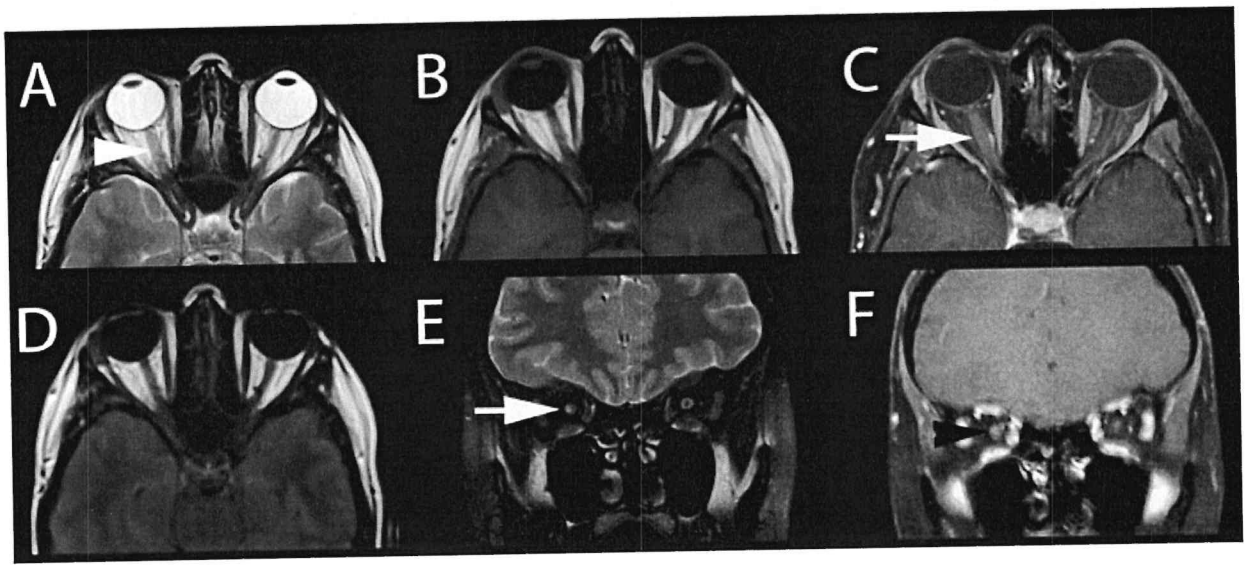
1. Below is a magnetic Resonance image (MRI) of a 5year old who presented at the optometry clinic with proptosis.



a. Describe what you observe from the images above?(hint -the arrow will help you) (2marks)
b. What is the provisional diagnosis and the differential diagnosis from the image above? Give reasons for each differentials (2 marks)

2. A 28 year old present with acute onset of painful loss of vision in the right eye. Extra ocular muscles assessment (EOMs) showed restriction in the abduction and movement aggravated the pain.

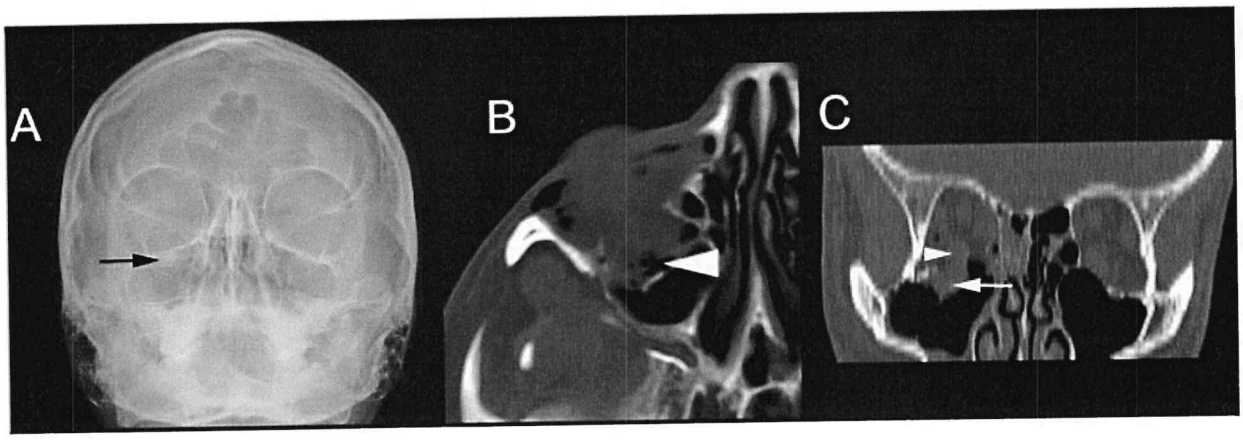
a. What scan do you think would be appropriate? (2 marks)



c. Describe what you are able to observe from the scan? (2 marks)

d. Why do you think it will be relevant to do visual acuity, color vision test and contrast sensitivity? (2marks)

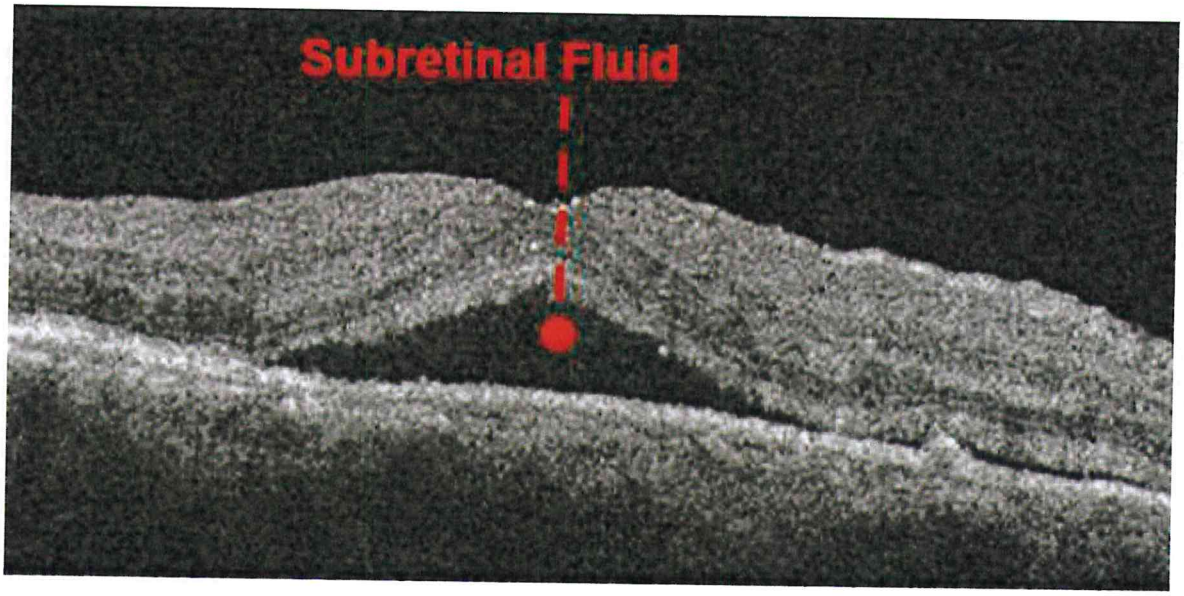
3. A 28 year old had a traumatic accident of the head 2years ago. He had been experiencing pain in the left eye and the vision kept on deteriorating. Below is the scan that was ordered by an optometrist.



a. What can you observe from the diagram? (3 marks)

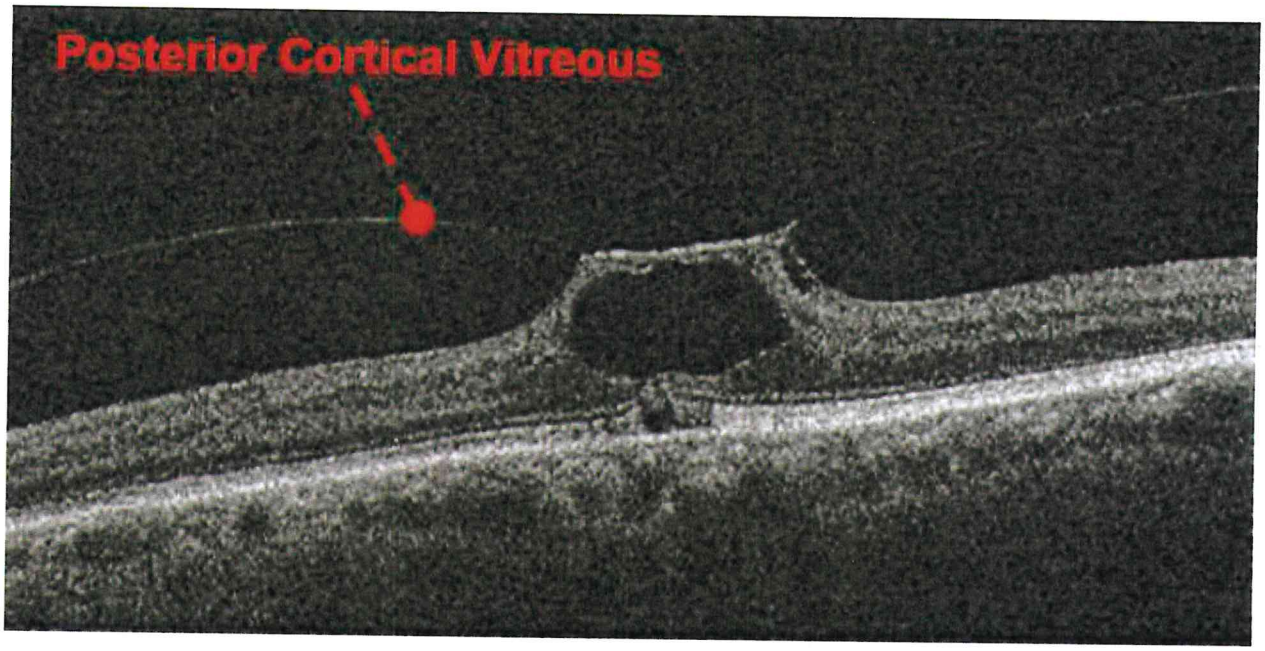
4. A 66-yr woman with severe Non Proliferative Diabetes Retinopathy (NPDR) in the left eye(OS) treated with focal laser photocoagulation complains of subsequent worsening vision left eye for several months .Her visual acuity 20/60 OD, 20/200 OS.

a. Which imaging technic do you think will be appropriate in this case? And why? (3 marks)



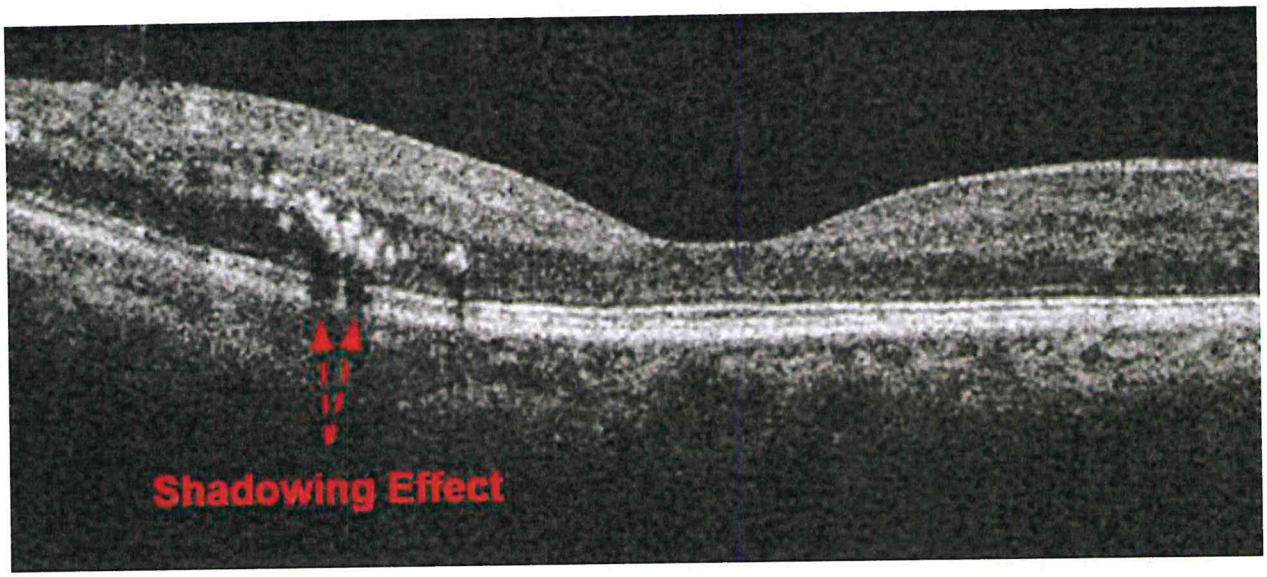
b. From the diagram what can be the provisional diagnosis? And why (2 marks)
c. What is the advantage of using the scan to other scans? (2 marks)

5. What is the provisional diagnosis of the below scan? And give reason why (2 marks)



b. Give a brief description of the role of the photoreceptor integrity line?(1.5 marks)
c. Name the hypereflective layers and hyporefrective layer in an OCT scan are? (2 1/2marks)
d. What principle does OCT use?(2.5 marks)

6. Give a brief description of the image below? (2.5 marks)



d. Which retinal conditions present with the above ?(2 marks)

7. A patient comes to the clinic complain of floaters and seeing stars from time to time.

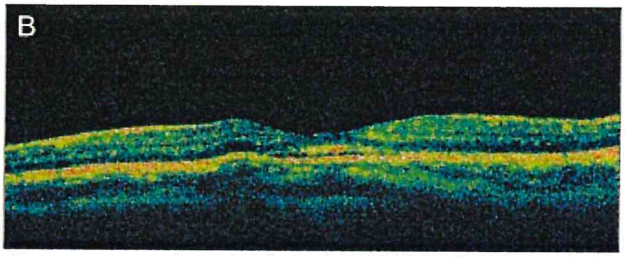
e. a. What are some of the examination techniques you will apply and why? (3 marks)

8. The visual acuity of the patient is HM (hand movement) both eyes and when given +0.25D both eyes the eye improves to 6/6.

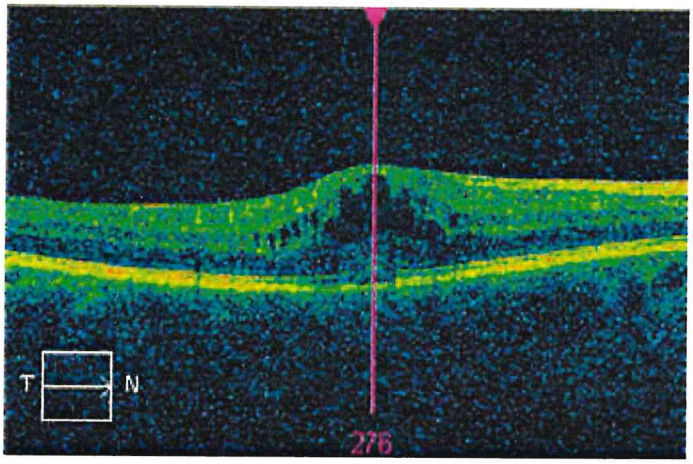
a. what is the likely diagnosis of the patient? And why? (1 marks)

b. What are some other tests that can be used to diagnose the above condition? (2 marks)

9. A 12-year-old male presented with a chief complaint of a 1-month-history of decreased visual acuity in his right eye. The patient had no past history of steroid use or other systemic diseases. Below is the OCT diagram of the patient .Based on the OCT what can be the diagnosis of the patient? And why (3 marks)

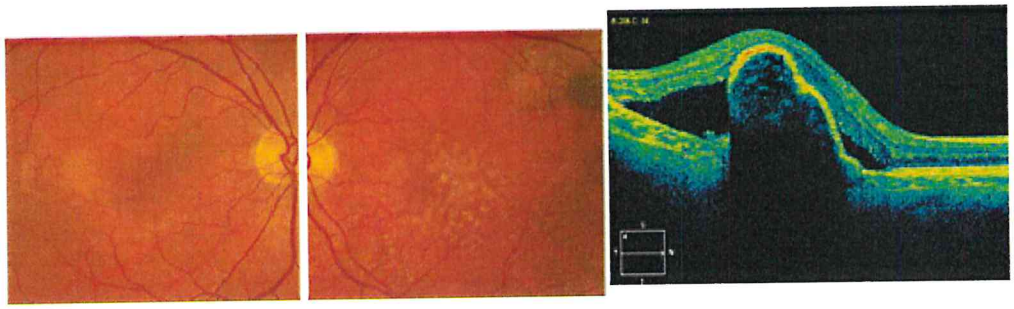


10. A 45 year old present to the optometric clinic. The OCT scan was as below. What is the possible diagnosis? And why? (2marks)



11. A 77-year-old Hispanic female presented complaining of painless, bilateral vision loss that had persisted for the past year. Additionally, she reported that the vision in her right eye became dramatically worse two weeks ago. Her medical history was significant for hypertension, which was controlled with medications.

On examination, her visual acuity measured 3/200 O.D. and 20/50 O.S. Confrontation fields were full to careful finger counting O.U., and Amsler grid was significant for central metamorphopsia O.D. The patient's pupils were equally round and reactive, without afferent defect. Extraocular motility testing was normal. The anterior segment examination was unremarkable, except for 2+ nuclear sclerosis O.U. Her IOP measured 12mm Hg O.U. On dilated fundus exam, we noted a posterior vitreous detachment O.U. Her optic nerves were normal O.U. The posterior poles and maculae can be seen in figures 1 and 2. Her peripheral retinae were normal O.U. We also obtained an optical coherence tomography scan of her right eye.



a) What do the changes seen temporal to the right macula likely represent? (2marks)

b) What does the OCT show? (2 marks)

c) What is the diagnosis for the patient's right eye? (2marks)

d) How should this patient be managed? (2marks)

e) What is the prognosis for visual recovery O.D.? (2 marks)

12. A 30-year-old woman presented to the emergency department with a two-day history of pain in her right eye that was worse with eye movements. She also complained of blurred vision in the right eye. She had no floaters or eye redness and did not have recent trauma. Her ocular and medical history were unremarkable, and she was not taking medications. On physical examination, the patient appeared well and had normal vital signs. Her best corrected visual acuity was 20/50 in the right eye and 20/20 in the left eye, and the intraocular pressures were normal at 13 mm Hg. The patient had a relative afferent pupillary defect in her right eye, and her extraocular movements were full. There was no proptosis or periorbital swelling. Findings on slit-lamp examination were normal, and funduscopic examination with pupil dilation showed a normal macula, peripheral retina and optic nerve. Results of a full neurologic examination were otherwise normal.

a. What is the next a appropriate step? (2 marks)

b. How do you respond when the patient ask if she has multiple sclerosis?(2 marks)

c. How do you respond when the patient asks if her vision will return and if she needs treatment? (1 mark)

RAGS