Name : .....

Roll No. : .....

Invigilator's Signature : .....

CS/B.OPTM/SEM-4/BO-402/2010

2010

OPHTHALMIC & OPTICAL INSTRUMENTATION & PROCEDURE - II

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) Ophthalmic ultrasound uses a frequency of

a) 20 kHz b) 100 kHz

c) 50 kHz d) 30 kHz.

ii) Laser has the following properties, *except*

a) It is monochromatic b) It is collimated

c) It is nonpolarised d) It is coherent.

iii) The wavelength used is Excimer laser is

a) 550 nm b) 193 nm

c) 1053 nm d) 647 nm.

iv) Sodium fluorescein used for fundus fluorescein angiography is used commonly as

a) 5 ml of 10% solution

b) 20 ml of 50% solution

c) 30 ml of 3% solution

d) 10 ml of 1% solution.

v) The sodium fluorescein dye first appears in

a) the choroid b) the retina

c) central retinal vein d) macular area.

vi) Ultrasonic frequencies in the range of ..... are used in opthalmic ultrasound procedures.

a) 10 MHz b) 2 MHz

c) 30 MHz d) 50 MHz.

vii) The greater the contrast threshold; the contrast sensitivities

a) lower

b) higher

c) indepdendent of threshold

d) none of these.

viii) Cambridge low contrast grating consist of a set of ..... plates.

a) six b) ten

c) four d) twelve.

ix) Pelli-Robson contrast sensitivity charts consist of letters which subtend an

a) angle of 10 degree at 1 metre

b) angle of 5 degree at 2 metre

c) angle of 3 degree at a distance of 1 metre

d) angle of 15 degree at 2 metre.

x) Fransworth Munsell 100 Hue test is :

a) Perimetry Test b) Tonometry Test

c) Pachymetry Test d) Colour Vision Test.

xi) Blue filter is used in

a) Schiotztonometry b) Noncontact tonometry

c) Applanation tonometry d) Indentation tonometry.

GROUP – B

(Short Answer Type Questions)

Write short notes on any *three* of the following. 3 × 5 = 15

2. 'Hypofluorescence' noted on fundus fluorescein angiography done in a patient.

3. 30-2 Test Programme in relation to Humphrey visual field analysis.

4. Potential Acuitymeter.

5. The correct end point in applanation tonometry reading.

GROUP – C

(Long Answer Type Questions)

Answer any *three* of the following. 3 × 15 = 45

6. a) Mention the indications of F.F.A. (any 3).

   b) Mention the causes of hyper fluorescence and hypo fluorescence noted on F.F.A. finus.(use a tabular form). 3 + 12

7. a) Mention the types of contrast sensitivity in brief.

   b) Explain the use of Arden gratings.

   c) Discuss the neural mechanism of contrast sensitivity. 3 + 5 + 7

8. a) Describe the various parts of a normal Humphrey visual field analysis report.

   b) Describe three common types of field defects that you may see in a HVF analysis report. 9 + 6

9. Use of ultrasound imaging (A-scan and B-scan) in ophthalmology — discuss. $7\frac{1}{2} + 7\frac{1}{2}$