

Name :
Roll No. :
Invigilator's Signature :

**CS/B.OPTM/SEM-4/BO-405/2010
2010**

OPHTHALMIC LENS AND DISPENSING OPTICS

Time Allotted : 3 Hours

Full Marks : 70

The figures in the margin indicate full marks.

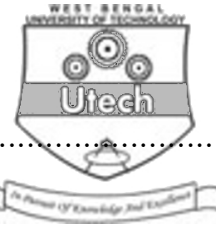
*Candidates are required to give their answers in their own words
as far as practicable.*

GROUP – A

(Multiple Choice Type Questions)

1. Answer any *ten* of the following as instructed : $10 \times 1 = 10$
 - A. Fill in the blanks :
 - i) The CVF value of lens material having R.I. 1.7 is
 - ii) The composition of photochromatic glass is
 - iii) In industrial eye protection, the ideal lens material is
 - iv) At the optical centre, the amount of prism power is
 - B. Choose the correct alternatives :
 - v) If the neutralizing power of a lens is +2.00D, the dioptric value of that lens is
 - a) -2.00D
 - b) +2.00D
 - c) +4.00D
 - d) none of these.

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vi) Barrel distortion is the result of magnification toward the lens periphery.

- a) decreased b) increased
- c) both (a) and (b) d) none of these.

vii) In soft design PAL, the intermediate zone is

- a) shorter b) longer
- c) both (a) and (b) d) none of these.

viii) The identification of ARC coating is done by

- a) bloom b) green colour
- c) both (a) and (b) d) none of these.

ix) Among glass lens materials, the base material is

- a) CR 39 b) Crown glass
- c) Plastic d) none of these.

x) Refractive index of CR-39 lens is

- a) 1.52 b) 1.25
- c) 1.35 d) 1.49.

xi) Polycarbonate lenses have a refractive index of

- a) 1.58 b) 2.38
- c) 3.28 d) 2.58.



GROUP – B

(Short Answer Type Questions)

Write short notes on any *three* of the following.

3 × 5 = 15

2. Vertex power and vertex distance.
3. Base curve.
4. Boxing system.
5. Antireflection coating.

GROUP – C

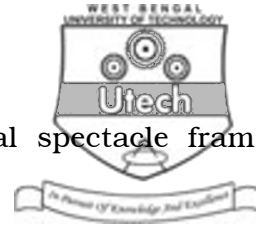
(Long Answer Type Questions)

Answer any *three* of the following.

3 × 15 = 45

6. What is lens decentration and why is it done ? Discuss.
7. a) What are the points to be checked in verification of spectacles of a patient complaining of intolerance to recently prescribed bifocal glasses ?
b) Discuss in detail how you will proceed to verify the following :
 - i) Cylindrical spectacle lenses
 - ii) Lens centration.

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8. a) What are the properties of an ideal spectacle frame material ?
- b) What are the different types of spectacle frame available ?
- c) What are tinted lenses ? Explain. 5 + 5 + 5
9. a) Discuss the benefits of progressive addition lenses.
- b) Describe and discuss the common problems that a first time user of progressive addition lenses (PAL) may suffer specifically problems related to use of PAL and discuss how you will rectify those problems. 5 + 10
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