

VINAYAKA MISSION'S RESEARCH FOUNDATION, SALEM
(Deemed to be University)

B.OPTOMETRY DEGREE EXAMINATION – March 2019
Second Year

OPTOMETRIC OPTICS

Time: Three hours

Maximum: 80 marks

I .Choose the best answer:

(10 x 1 = 10)

1. Shrinking of the inner portion of the lens is called as
 - a) Feathers
 - b) Bad metal
 - c) Strain
 - d) None of the above
2. Crazing is
 - a) Veins in the lens
 - b) Criss-cross cracks
 - c) Chemical changes in surface
 - d) All the above
3. Which of the following method can be used to detect tarnish?
 - a) Transmission
 - b) Reflection
 - c) Shadowing
 - d) None of the above
4. For +2.50DS add power, near PD should be measured at
 - a) 20cm
 - b) 25cm
 - c) 40cm
 - d) 30cm
5. If a frames dimensions are A = 50 & C = 48 with a frame difference of 8, what is B?
 - a) 58mm
 - b) 56mm
 - c) 52mm
 - d) 42mm
6. A frame is marked 52 □ 18. Lens shape is round. What is the effective diameter of lens?
 - a) 70mm
 - b) 52mm
 - c) 18mm
 - d) 61mm
7. A frame marked 1/10 12k GF
 - a) has 10% gold by weight
 - b) has a 12k solid gold bridge
 - c) has a 10k solid gold bridge
 - d) is 10% gold by volume
8. Types of frame materials that do not adjust very well are
 - a) Polyamide
 - b) Optyl
 - c) Polycarbonate
 - d) All the above
9. _____ should be used for fitting high minus wearer
 - a) Rounded corner
 - b) Large lenses
 - c) Crown glass lenses
 - d) None of the above
10. Soft design of PAL have a _____ corridor
 - a) Short
 - b) Long
 - c) Deep
 - d) Narrow

(p.t.o)

II. State whether the following statements are TRUE or FALSE (10 x 1 = 10)

1. In the boxing system, the effective diameter is the diagonal of the box.
2. The frame difference for a frame with a circular lens shape is always zero.
3. Essilor pupillometer measures the PD using a corneal reflex.
4. While measuring Pubillary Distance measurement, examiner closes one of his eyes and not one of the subject's eye.
5. Smaller eye size should be avoided when fitting a high minus wearer.
6. Squared off corners should be avoided while fitting a high minus wearer.
7. Straight back temples should be prescribed for on and off wear.
8. Ophthalmoscope can be used to check for strain in a lens.
9. Optyl frames can be heated until it bends.
10. Polyamide frame material shrinks when plunged into cold water.

III .Fill in the blanks: (10 x 1 = 10)

1. Lowest surface power in any lens form is called as _____.
2. Spherical lens that has its surface powers computed to eliminate aberrations is called a _____ lens.
3. Mushroom tool is needed for working _____ surfaces.
4. 'Scissors movement' is found in _____ lenses.
5. 'Straight edge' test is used for _____.
6. The deviating power of a lens at any given point is called its _____.
7. _____ is the final stage of grinding.
8. Refractive index of PMMA is _____.
9. Stria, in lens material, is _____.
10. Effective power of _____ lens decreases when it is moved away from the eye.

IV. Write any FIVE answers of the following: (5 x 6 = 30)

1. Give notes on prentice's rule and explain its implications.
2. Write an account on toughened lenses.
3. Give a brief account on sag formulae.
4. Explain in brief about frame measurements and markings.
5. Write in brief about Aspheric Lenses.
6. List the uses of polarising filter.
7. Discuss about the field of view of ophthalmic lenses.

V. Write any TWO essays of the following: (2 x 10 = 20)

1. Write in detail about the lens materials.
2. Explain in detail about faults in the surface of the lens.
3. Write detailed notes on manufacture of glass.
