

First Year B.Sc Optometry Degree Supplementary Examinations
April 2024
Physics & Chemistry
(2014 Scheme)

Time: 3 hrs

Max marks: 80

- Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers
- Indicate the question number correctly for the answer in the margin space
- Answer all parts of a single question together • Leave sufficient space between answers
- Draw table/diagrams/flow charts wherever necessary • Write section A and section B in separate answer books (32 Pages). Do not mix up questions from section A and section B.

Q P Code: 115013

Section A – Physics

Marks: 40

Essay:

1. Discuss in detail the Fraunhofer diffraction due to a single slit

(10)

Short notes:

(3x5=15)

2. Explain the tangent condition for the elimination of distortions
3. Explain Emmetropia and Ametropia with diagrams
4. Explain how the planeness of a surface can be tested using interference methods

Answer briefly:

(5x2=10)

5. What are diffraction gratings
6. What is Malu's law
7. Explain the recording of images in holograms
8. What is Rayleigh's scattering
9. What are contact lenses

Fill in the blanks:

(5x1=5)

10. Ice is a----- Crystal
11. The active centres in He-Ne laser is-----
12. To invert a circularly polarised light, we use-----
13. Compact disc shows colour in white light due to-----
14. In an elliptical reflector, the optical path of light will be-----

Q P Code: 116013

Section B – Chemistry

Marks: 40

Essay:

(10)

1. Explain the Geometrical isomerism of Maleic and Fumaric acid

Short notes:

(3x5=15)

2. Explain elimination reaction with example
3. Give a short note about the alkylation of benzene
4. Give the principle of column, paper and thin layer chromatography

Answer briefly:

(5x2=10)

5. Give examples for SN^2 & SN^1 reactions
6. What are the uses of Benzene
7. Explain Buffer solution. Give example
8. Carbocation
9. Artificial hormones

Fill in the blanks:

(5x1=5)

10. A negative ion in which a carbon carries a negative charge is called -----
11. Hybridisation in ethylene is-----
12. Night blindness is a disease caused by -----
13. Cyanocobalamin is called -----
14. An equimolar mixture of two enantiomers of a substance is known as the ----- modification
