

First Year B.Sc Optometry Degree Supplementary Examinations
March(November), 2020
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:****(10)**

1. Explain the principle, construction and working of He-Ne laser

Short notes:**(3x5=15)**

2. Explain the use of lasers in medicine
3. Explain how refractive index of a liquid can be determined by Newton's ring experiment
4. Briefly illustrate the working of a photovoltaic photometer

Answer briefly:**(5x2=10)**

5. What are incoherent sources
6. State superposition principle
7. What is dispersion without deviation
8. Distinguish between step index fibre and graded index fibre
9. Define Lambert's law

Fill in the blanks:**(5x1=5)**

10. A soap bubble appears multicoloured in white light due to.....
11. For a point source of light, nearby wave front is.....
12. Ruby laser gives outcolour
13. When the focal length of a lens decreases, the field of view of the lens.....
14. To observe diffraction, the size of the obstacle should be.....

Q P Code: 116013**Section B – Chemistry****Marks: 40****Essay:****(10)**

1. Discuss and illustrate the various electron displacement effect.

Short notes:**(3x5=15)**

2. Give a brief note about the uses of sulphur drugs
3. Explain chemical classification of carbohydrates with suitable example
4. What do you mean by emulsion. Give its preparation and application

Answer briefly:**(5x2=10)**

5. Explain the principle of paper chromatography
6. What are free radicals. How are they formed
7. What are diastereomers
8. Give the structure of chloramphenicol
9. What is the pH of buffer in living system.

Fill in the blanks:**(5x1=5)**

10. An electrophile is Lewis -----
11. The necessary condition for a substance to show optical isomerism is that its molecule should be -----
12. In benzene, the state of hybridization of all the six C atoms is -----
13. The disaccharide ----- is made up of glucose and fructose
14. Chemical name of vitamin C is -----
