

Reg. No.:.....

**Second Year B.Sc Optometry Degree Supplementary Examinations  
November 2025**

**Nutrition, Biochemistry & Pharmacology  
(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. Do not mix up questions from Section A and Section B*

**Q.P. Code: 211013**

**Marks: 40**

**Section A: Nutrition & Biochemistry**

**Essay (10)**

1. Describe the sources, daily requirement and formation of Vitamin D. Discuss briefly the biochemical effects of Vitamin D.

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

2. Buffers of body fluids
3. Significance of HMP Shunt pathway
4. Important specialised products from Tyrosine

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

5. Essential fatty acids
6. Marasmus
7. Intraocular gels
8. Allosteric enzyme inhibition
9. List four causes of congenital hyperbilirubinemia

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

10. The end product of anaerobic glycolysis is .....
11. The enzyme elevated to very high levels in serum in obstructive liver disease is .....
12. The apolipoprotein seen in LDL is .....
13. Wilson's disease is due to abnormal metabolism of the mineral .....
14. Antibodies are synthesised by.....

**(P.T.O)**

**Section B: Pharmacology**

**Essay**

**(10)**

1. Classify local anaesthetic drugs with examples. Write the mechanism of action and their adverse drug reactions. Give the rationale of adding adrenaline to lignocaine injection.

**Short notes**

**(3x5=15)**

2. Write the mechanism of action, uses and adverse effects of osmotic diuretics.
3. Atropine
4. Write the mechanism of action of benzodiazepines with examples and its adverse effects.

**Answer briefly**

**(5x2=10)**

5. Topical anti-histamines and its uses
6. Prostaglandins in glaucoma
7. Betablockers
8. Common anti-bacterial agents in Ophthalmic use
9. Vitamin A

**Fill in the blanks**

**(5x1=5)**

10. ONE example for topical antiseptic.....
11. Name ONE inotropic drug.....
12. Name ONE antiviral used locally in eyes.....
13. Name ONE topical ocular glucocorticoid.....
14. Name ONE antidepressant.....

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