

# UNDERGRADUATE PROGRAMME IN BIOCHEMISTRY

## Paper No- 13 Molecular Basis of Complex Human Diseases

### THEORY

This paper would deal with complex diseases such as lifestyle disorders (diabetes, cardiovascular diseases, etc.), cancer, developmental/congenital defects, muscular disorders, eye disorders, neurodegenerative diseases/bipolar syndrome, or disorders with complex etiology and nutritional origin and others that are relevant at the time.

The **biology, pathology, diagnosis, prevention and treatment** of these diseases will be discussed with some case studies including application of Systems biology approaches to understand complex phenomenon.

### PRACTICAL

The practicals will involve carrying out assays for the detection of some of the above-mentioned diseases, analysis of data and their interpretation.

### Suggested Readings:

1. Davidson's Principles and Practice of Medicine (2010) 21<sup>st</sup> ed., Colledge, N.R., Walker, B.R. and Ralston, S.H., Churchill Livingstone (Elsevier), ISBN: 978-0-7020-3085-7.
2. Textbook of Biochemistry with Clinical Correlations (2011) Devlin, T.M., John Wiley & Sons, Inc. (New York), ISBN: 978-0-4710-28173-4.
3. Harrison's Principles of Internal Medicine (2012) Vol. I, 18<sup>th</sup> ed., Longo, D.L. et al. The McGraw-Hill Companies, Inc., ISBN: 978-0-07-163244-7; Vol. II, ISBN: 978-0-07-174887-2.
4. Janeway's Immunobiology (2012) 8<sup>th</sup> ed., Murphy, K., Mowat, A., and Weaver, C.T., Garland Science (London & New York), ISBN: 978-0-8153-4243-4.