

BT1010: LIFE SCIENCES

Course Content:

Students will be exposed to basic biology concepts and their applications: What is life and how did it originate on earth? ; What is evolution?; The fundamental molecules of life (Biomolecules), cellular metabolism, energy aspects; DNA replication; Cell replication and its quantification; How are proteins made in the cell? – Transcription and translation; Mendelian genetics as a useful tool; The coordinated function of cells in a biological system – Human organ systems; Applications of life sciences in healthcare and industrial biotechnology.

Text Books:

1. **Campbell, N. A., Urry, L. A., Cain, M. L., Wasserman, S. A., Minorsky, P. V., and Reece, J. B.**, Biology: A Global Approach, Global edition, 11th edition, Pearsons, 2017.
2. **David S.** Goodsell, The Machinery of Life, 2nd Edition, 2009, Springer

Reference Books:

1. **Bruce Alberts, Alexander Johnson, Julian Lewis, Martin Raff, Keith Roberts, Peter Walter**, Molecular Biology of the Cell, 5th Edition, 2007, Garland Science
2. **Karp, G**, Cell and Molecular Biology: Concepts and Experiments, 7th edition, Wiley, 2013.
3. **Paul Davidovits**, Physics in Biology and Medicine, 3rd Edition, 2007, Academic Press
4. Colin Ratledge, Bjorn Kristiansen, Basic Biotechnology, 3rd Edition, 2006, Cambridge University Press
5. **Suraishkumar G. K.**, Biology for Engineers, Oxford University Press, 2019.

Prerequisite:

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