

Bioinformatics

Bioinformatics is science of reposting, retrieving and analyzing an ample amount of biological data. It deals with the biological data from research for the use of further research purposes. It is a hybrid science which basically link the biological data with the storage, distribution, and analysis which ultimately is used for scientific research in multiple areas like biomedicine etc. This science is fed by data generation experiments such as genomic sequence resolutions and magnitudes of gene expression patterns. Data base projects accumulate and annotate the data after which the data is being distributed on World Wide Web. Meanwhile, this information is needed for the scientific discoveries which lead its use in different fields especially in the field of medicine. For example, bioinformatics is used to correlate the disease and gene sequence, to predict structure of protein from aminoacid, help to design novel drugs, and for the treatment of patients individually on the basis of their DNA sequence. Bioinformatics is highly interdisciplinary field which involves different specialists like molecular life scientists, mathematicians, computer scientists and biologists importantly. Previously bioinformatics was used only for storing and analyzing biological data and biomolecular sequence data but the term now encompasses computational structural biology, system biology and chemical biology. Sections which are encompassed in the term bioinformatics broadly include; molecular structures, gene-protein and metabolic expressions, protein sequence and families, genome and variations, chemical biology and system. This technique is a medium for storage the variations and modifications in genome sequence which ultimately is the reason for biological existence.

Questions related stem cells are frequently asked in competitive exams like UPSC, UPPSC, HAS, HPAS, KAS, RAS, PCS, CDS, SSC CGL and other exams.

