

Syllabus of Molecular Biology & Genetic Engineering Course (2023/2024)

PhD Parasitology

Prof. Dr. Inam Jasim Lafta

Theoretical Subjects

week	Title of Lecture
1	Genetic Material, The composition and structure of DNA and RNA
2	The organization of DNA in chromosomes, Eukaryotic chromosomes, The Structure of chromatin, Centromeric and telomeric DNA, DNA replication in eukaryotes, replication enzymes
3	Replicating the ends of chromosomes, Structure and function of genes, The arrangement and layout of genes , Transcription
4	Eukaryotic RNA polymerases, Translation, DNA and RNA Modifications, DNA Mutations
5	Chromosomal mutations, Molecular evolution, Phylogenetic trees, Genetic engineering and its applications
6	Mid Examination
7	Gene cloning and PCR, DNA libraries
8	Enzymes used in DNA cloning
9	Restriction sites and recombinant DNA molecules, Vectors
10	Different types of cloning vectors
11	Expression vectors, Hosts
12	Applications of gene cloning and DNA analysis
13	Continue...Applications of gene cloning and DNA analysis
14	Revision