Optional Course

LS 563— MOLECULAR AND CELLULAR PARASITOLOGY [2 credits]

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S No	Topic	Contact Hours
1.	Introduction to Protozoan parasites: *Entamoeba histolytica* and other amitochondriates; Kinetoplastids includes Leishmania and Trypanosomes; Apicomplexans e.g Plasmodium, *Toxoplasma gondii*; Helminthes and nematodes	
2.	Peculiar organelles of Protozoa: cytoskeleton, mitotic spindle, hydrogenosomes, glycosomes	
3.	Chemotherapeutic targets in protozoan parasites: Properties of an effective drug, Classes of drugs, Mechanism of action of drugs	
4.	Drug Resistance and mechanism in protozoan parasites	
5.	Host-parasite interactions and Antigenic variation and host evasion	
6.	Virulence factor in protozoan parasite	
7.	Genomic organization, transcription, splicing and gene regulation in parasites: Chromosomal, Extra chromosomal	
8.	Functional genomics of parasites	
9.	Novel molecular mechanisms in parasites, Replication of kDNA and RNA editing	
10.	Diagnostics	
11.	Immuno-pathogenic mechanism: Innate immunity, functions of complements, receptors for innate immunity, toll like receptors, Adaptive immunity, role of cytokines etc.	
12.	Vaccine targets	

Suggested reading:

Individual faculty members will give concerned literature.