

Course contents for Biology of Parasitism

- 1. Faculty:** FLSB
- 2. Course Code:**
- 3. Course Title:** Biology of Parasitism
- 4. Number of Credits:** Two
- 5. Course objectives:**

The course gives rundown of biological basis of parasitic lifestyles including host responses and parasite evasion of host defense mechanisms. It has been designed keeping in mind important parasites afflicting the SAARC region. The students would be trained about transmission, epidemiology, diagnosis, clinical manifestations, pathology, treatment and control of major parasites which can be applied to public health.

6. Minimum prerequisites for taking this course, if any: Bachelor's degree in any field of Biology/Life Sciences

7. Course structure with units, if applicable:

The following topics will be covered as part of the course:

UNIT 1 General concepts: Evolution of host – parasite relationship, General immune evasion mechanisms in bacteria/viruses.

UNIT 2 Blood parasites: Malaria: Epidemiology, mode of infection and detection. Coordinated switching for antigenic variation. Drug targets, mechanism of drug resistance. Malaria vaccine strategies. Leishmaniasis: Sand fly biology in the life cycle of *Leishmania*; Epidemiology and detection. Immunity and immune evasion in leishmaniasis. Drug targets and mechanism of drug resistance. Vaccine strategies.

UNIT 3. Gastrointestinal and other parasites: Amoebiasis/Filariasis: Epidemiology and detection. Immunity and immune evasion mechanisms. Drug targets and mechanism of drug resistance. Vaccine strategies.

UNIT 4. Beyond humans: Parasites of veterinary importance; zoonoses. Climate change and vector-borne diseases.

8. Reading suggestions:

1. Foundations of Parasitology, Roberts L.S. and Janovy J., McGraw-Hill Publishers, New York, USA.
2. Modern Parasitology: A Textbook of Parasitology, FEG Cox., Wiley-Blackwell, U. K. 3.
3. Parasitology: A Conceptual Approach, Eric S. Loker, Bruce V. Hofkin. CRC Press

9. Evaluation:

Theory:	Mid-semester Written Examination	: 40% Marks
	End-semester Written Examination	: 40% Marks
	Quiz / Assignment/Presentation (oral / poster)/other	: 20% Marks