

**CLS 412**

**CLINICAL PARASITOLOGY**

***Lab Manual***

**Done by:**

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**Lab 1: GENERAL INTRODUCTION and LAB SAFETY:**

*In this lab we are introducing the students to Clinical Parasitology terminologies and samples commonly used and containers for each sample, also safety precautions and equipments are given here.*

**Equipments required:**

1. Light microscope.
2. Clean slides.
3. Containers: Urine, Stool, Blood
4. Request form.
5. Iodine.
6. Normal saline.

*These equipments together with the safety disposable jars and containers must be demonstrated to the students.*

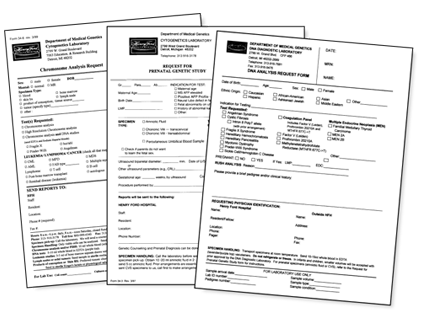
*Also show them how wet smears are done for parasitologic examinations.*

*Pictures of the containers and request form:*

* Stool containers*

* Urine containers*

* Blood collecting tubes*

* Request forms*

**Lab 2: PROTOZOA, AMOEBA:**

*Brief definition to protozoa and its stages, and classifications.*

*Start with AMOEBA 4 types the difference, and diagnosis of each and see some pictures for them.*

* **GLASS SLIDES:**

1. *Entamoeba histolytica* Cyst and trophozoite.
2. *Entamoeba coli* cyst and trophozoite.
3. *Endolimax nana* only cyst stage.
4. *Iodamoeba butchulii* only cyst stage.

*All glass slides are seen under light microscope at high power “oil immersion” and in the beginning of each lab all slides for the previous labs must be given.*

*The pictures are shown by a power point slides in a Data show, or there are some printed pictures may given to the students.*

**Lab 3: BLANTIDIUM COLI, AND FLAGLLATES: TRICHOMONAS and GIARDIA:**

*For Balantidium coli: way of locomotion and stages, also morphology must be demonstrated with some projector Slides.*

*For Giardia and Trichomonas : way of locomotion and stages, also morphology and finally samples required in case of Trichomonas for different species.*

*Projector slides are available.*

* **GLASS SLIDES:**

1. *Balantidium Coli* only cyst stage.
2. *Trichomonas vaginalis*.
3. *Giardia* cyst and trophozoite.

**Lab 4: BLOOD and TISSUE PARASITES, LIESHMANIA and TRYPANOSOMA:**

*Explain the 2 stages of Lieshmania: Promastigote and Amastigote the morphology and from where they are derived.*

*They must know the disease and the vector for it.*

*Types of lieshmaniasis and specimen required for ech type.*

*For Trypanosoma, the disease is important and types, also different species with different morphology.*

*Specimen for each type must be well known and diagnostic method.*

*For all blood parasites we need Thin or Thick blood films: and the students must know how to made them also the difference between both, advantages and disadvantages of each.*

**We need to demonstrate Giemsa stain and Lieshman stain, thin and thick blood films and pictures for each of them.**

* **GLASS SLIDES:**

1. *Lieshmania* : promastigote and amastigote.
2. *Trypanosome cruzi*.
3. *Trypanosome jambiences*.

**Lab 5: MALARIA and TOXOPLASMA:**

*Here the students are not asked for the species, but it’s important for them to know the stages: Ring form, Schizont, and Gametocytes.*

*The student must know what’s the sample in this case, the diagnosis procedures, and the pathogenesis.*

*Also there is a demonstration in pictures only of the dip-stick test for detection of malaria in patient or donor blood samples.*

*For toxoplasma, the students must know the disease, pathogenesis, samples required, and diagnostic procedures.*

* **GLASS SLIDES:**

1. Ring form of plasmodium species 2 slides.
2. Schizont stage of plasmodium.
3. *Toxoplasma sp.*

***All glass slides are kept in microbiology lab.***