



Parasitology Curriculum Content And Logbook (1st Term)

Student's Name:

Section:



Pesonal Data

Student's name:.....

Address:.....

Telephon No.:.....

E-mail:.....

Serial No.:.....

Attended Ratio:.....

Photo



Cerriculum Content



Parasitology Course

- **Theoretical Topics (lectures): 3 hours / week.**
- **Practical Course: 3 hours / week.**

Academic Teaching Materials

- Introduction to Parasitology and Parasitism.
- Class: Trematoda.
- Class: Cestoda.
- Class: Nematoda.
- Phylum: Acanthocephala.
- Fish Helminthes

Practical Course

- Introduction to Parasitology, Parasitism and management of Microscopes.
- Morphology of different stages of Class Trematoda.
- Morphology of different stages of Class Cestoda.
- Morphology of different stages of Class Nematoda.
- Morphology of different stages Phylum Acanthocephala.
- Morphology of different stages of Fish Helminthes



Intended Learning Outcomes of Course

◆ Knowledge and Understanding.

1. Know the bases of Parasitism, types of parasites and hosts, infectivity and parasitic immunity.
2. List parasitic Trematodes affecting different animal species, birds and fishes in addition to know their morphology, biology, pathogenesis, control measures and the technical methodology in its diagnoses.
3. Describe the role of Trematodes in animal disease initiation, and know the diseases caused by these Parasites with discuss its clinical signs and epidemiology.
4. Enumerate parasitic Cestodes affecting different animal species, birds and fishes in addition to know their morphology, biology, pathogenesis, control measures and the technical methodology in its diagnoses.
5. Explain the role of Cestodes in animal disease initiation, and know the diseases caused by these Parasites with discuss its clinical signs and epidemiology.
6. Identify parasitic Nematodes affecting different animal species, birds and fishes in addition to know their morphology, biology, pathogenesis, control measures and the technical methodology in its diagnoses.
7. Summarize the role of Nematodes in animal disease initiation, and know the diseases caused by these Parasites with discuss its clinical signs and epidemiology.



8. Recognize parasitic Acanthocephala affecting different animal species, birds and fishes in addition to know their morphology, biology, pathogenesis, control measures and the technical methodology in its diagnoses.
9. Describe the role of Acanthocephala in animal disease initiation, and know the diseases caused by these Parasites with discuss its clinical signs and epidemiology.

Intellectual Skills

1. Correlate between Parasites, pathogenesis, and sequelae of different Parasitic diseases.
2. Develop problem lists and proficiently secures diagnostic reasoning for Trematodes, Cestodes, Nematodes and Acanthocephala infestation.
3. Use critical thinking and to reach the most appropriate solution (s) and management for Trematodes, Cestodes, Nematodes and Acanthocephala infestations.
4. Suggest solutions for how to control Trematodes, Cestodes, Nematodes and Acanthocephala infection in the community.
5. Correlate between the Helminthes host interaction, Helminthes biology and the clinical observations.
6. Proficiently secure diagnostic reasoning, develop problem lists and differential diagnosis in order to reach the most appropriate solution (s) and management parasitic diseases in fish, poultry, rabbit, farm and pet animals.



Professional and Practical Skills.

1. Employ all the gained knowledge and understanding in clinical practice in a skillful pattern.
2. Diagnose, treat and apply control measures for parasitic infection.
3. Isolate and identify different Trematodes as well as their different stages or any of their body parts in urine or stool samples using modern laboratory protocols.
4. Isolate and identify different Cestodes as well as their different stages or any of their body parts in urine or stool samples using modern laboratory protocols.
5. Isolate and identify different Nematodes as well as their different stages or any of their body parts in urine or stool samples using modern laboratory protocols.
6. Isolate and identify different Acanthocephala as well as their different stages or any of their body parts in urine or stool samples using modern laboratory protocols.
7. Identify Helminthes and their different stages through examination of mounted slides also in tissue sections and demonstrate their reactions in such tissues by naked eye (jars).
8. Diagnose poultry, rabbit and fish diseases, and design preventive programs for them.

General and Transferable Skills.

1. Work under pressure and / or contradictory conditions.
2. Function in a multidisciplinary team.
3. Communicate appropriately verbally and nonverbally.



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4. Organize and control tasks and resources
 5. Search for new information and technology as well as adopt life-long self-learning ethics.
 6. Utilize computer and internet skills.

Attitude.

1. Appreciate the importance of the life-long learning and show a strong commitment to it.
2. Self-study and education.



Student Assessment Methods

- 1- Final Written exam.
- 2- Oral Exam (Viva Card Method).
- 3- Practical Exam (Identification of parasites and its stages Microscopally and Macroscopally with short notes).
- 4- Attendance criteria: The minimum acceptable attendance is 75%.
- 5- Formative Assessment.
 - a- Test after each chapter.
 - b- Log book and practical book.
 - c- Students activities (Presentations & Essays).

| Assessments | Assessment | Weight | Degree |
|--------------|--------------------|--------|--------|
| Assessment 1 | Practical Exam | 30% | 15 |
| Assessment 2 | Oral Exam | 20% | 10 |
| Assessment 3 | Final Written exam | 50% | 25 |
| Total | | 100% | 50 |



 **Week 1**

Date:.....

- 1- Introduction to Parasitology, Parasitism.
- 2- Effect of parasitism on the host.
- 3- Defenition and typs of Parasites.
- 4- Defenition and typs of Hosts.
- 5- Host - parasites specificity
- 6- Mode of transmition of animal parasites.
- 7- Perodes Concerning Parasites and Host.
- 8- Parasitic immunity.
- 9- Management of Microscopes.

| N | Slides | Draw | Signature |
|---|--------|------|-----------|
| 1 | ----- | | |
| 2 | ----- | | |
| 3 | ----- | | |
| N | Jars | Draw | |
| 1 | ----- | | |
| 2 | ----- | | |
| 3 | ----- | | |

 **Assesment Questions:**

- Discuss Types of Parasites.



Week 2

Date:.....

- 1- Compare between Platyhelminthes, Nematelmenthes and Acanthocephala.
- 2- General Morphological characters and general biology of digenic Trematodes.
- 3- Classification of family Fasciolidae.
- 4- Discribe *Fasciola gigantica* adult in Jar also, mention Morphological characters of adult and its Developmental stages (Eggs, Miracidium, Redia and Cercaria) Microscopally.
- 5- Discribe *Fasciola hepatica* adult in Jar also, mention Morphological characters of adult Microscopally.
- 6- Discribe *Dicrocoelium dendriticum* adult in Jar also, mention Morphological characters of adult Microscopally

| N | Slides | Draw | Signature |
|---|--|------|-----------|
| 1 | - <i>Fasciola gigantica</i> , adult. | | |
| 2 | - <i>Fasciola hepatica</i> , adult. | | |
| 3 | - <i>Fasciola spp.</i> , egg. | | |
| 4 | - <i>Fasciola spp.</i> , miracidium. | | |
| 5 | - <i>Fasciola spp.</i> , redia. | | |
| 6 | - <i>Fasciola spp.</i> , cercaria. | | |
| 7 | - <i>Dicrocoelium dendriticum</i> , adult | | |
| N | Jars | Draw | |
| 1 | - <i>Fasciola gigantica</i> , adult. | | |
| 2 | - <i>Fasciola hepatica</i> , adult. | | |
| 3 | - <i>Dicrocoelium dendriticum</i> , adult. | | |



Assesment Questions:

- Compare between *Fasciola gigantica* and *Dicrocoelium dendriticum*.



Week 3

Date:.....

- 1- Classification of family Paramphistomatidae.
- 2- Describe *Paramphistomum spp*, *Carmerius gregarious* and *Gastrodiscus aegyptiacus* adult in Jar also, mention Morphological characters of their adult stage and their Egg Microscopally.
- 3- Classification of family Echinostomatidae.
- 4- Mention Morphological characters of *Echinostoma revolutum* adult and its Cercaria Microscopally.
- 5- Classification of family Heterophyidae
- 6- Mention Morphological characters of *Heterophyes heterophyes* adult and its eggs and encysted metacercaria Microscopally

| N | Slides | Draw | Signature |
|---|---|------|-----------|
| 1 | - <i>Paramphistomum spp</i> , adult. | | |
| 2 | - <i>Carmerius gregarious</i> , adult. | | |
| 3 | - <i>Gastrodiscus aegyptiacus</i> , adult. | | |
| 4 | - Paramphistomatidae, egg. | | |
| 5 | - <i>Echinostoma revolutum</i> , adult. | | |
| 6 | - <i>Echinostoma revolutum</i> , cercaria. | | |
| 7 | - <i>Heterophyes heterophyes</i> , adult. | | |
| 8 | - <i>Heterophyes heterophyes</i> , Eggs. | | |
| 9 | - <i>Heterophyes heterophyes</i> , encysted metacercaria in fish muscles. | | |
| N | Jars | Draw | |
| 1 | - <i>Paramphistomum spp</i> , adult. | | |
| 2 | - <i>Carmerius gregarious</i> , adult. | | |
| 3 | - <i>Gastrodiscus aegyptiacus</i> , adult. | | |

Assesment Questions:

- Compare between *Paramphistomum spp* and *Echinostoma revolutum*.



Week 4

Date:.....

- 1- Classification of family Schistosomatidae and discuss its General Characters.
- 2- Mention Morphological characters of *Schistosoma spp.* adult male and female and its Developmental stages (Eggs, and Cercaria) Microscopally.
- 3- Classification of Snails.
- 4- Mention Morphological characters of a snail dried shell and habitate of the following snails(*Lymnaea Caillaudi*, *Melania tuberculata*, *Pirenella conica*, *Zebrina spp*, *Vivipara spp*, *Cleopatra bulimoides*, *Cleopatra cyclostomoides*, *Bulinus truncatus*, *Physa acuta* and *Planorbis biossyi*.
- 5- Explain the importance of each snail

| N | Slides | Draw | Signature |
|----|---|------|-----------|
| 1 | - <i>Schistosoma spp.</i> adult male. | | |
| 2 | - <i>Schistosoma spp.</i> adult female. | | |
| 3 | - <i>Schistosoma spp.</i> adult male | | |
| 4 | - <i>Schistosoma spp.</i> adult male | | |
| 5 | - <i>Schistosoma spp.</i> adult male | | |
| N | Boxes | Draw | |
| 1 | - <i>Lymnaea Caillaudi</i> , a snil dried shell. | | |
| 2 | - <i>Melania tuberculata</i> , a snil dried shell. | | |
| 3 | - <i>Pirenella conica</i> , a snail dried shell. | | |
| 4 | - <i>Zebrina spp</i> , a snail dried shell. | | |
| 5 | - <i>Vivipara spp</i> , a snail dried shell. | | |
| 6 | - <i>Cleopatra bulimoides</i> , a snai dried shell. | | |
| 7 | - <i>Cleopatra cyclostomoides</i> , a snai dried shell. | | |
| 8 | - <i>Bulinus truncatus</i> , a snai dried shell. | | |
| 9 | - <i>Physa acuta</i> , a snail dried shell. | | |
| 10 | - <i>Planorbis biossyi</i> , a snai dried shell. | | |



Assesment Questions:

- Compare between four spp. of Schistosoma.



Week 5

Date:.....

- 1- General Morphological characters and general biology of Cestoda.
- 2- Classification of family Taenidae.
- 3- Discribe Metacestodes in Jars and Microscopally also, mention Morphological characters of Scolex, Mature segments and Gravid segments of adult *Taenia spp* and also its Eggs Microscopally.
- 4- Mention Morphological characters of *Echinococcus granulosus* Morphological characters Microscopally.

| N | Slides | Draw | Signature |
|----|---|------|-----------|
| 1 | - <i>Tainia saginata</i> , scolex. | | |
| 2 | - <i>Taenia solium</i> , Scolex. | | |
| 3 | - <i>Taenia spp</i> , Mature segments | | |
| 4 | - <i>Taenia spp</i> , Gravid Segments. | | |
| 5 | - <i>Taenia spp</i> . Eggs. | | |
| 6 | - <i>Cysticercus bovis</i> . | | |
| 7 | - <i>Cysticercus cellulosae</i> . | | |
| 8 | - <i>Coenurus cerebralis</i> . | | |
| 9 | - <i>Echinococcus granulosus</i> , adult. | | |
| 10 | - <i>Hydatid cyst</i> C.S in cystic wall. | | |
| 11 | - <i>Hydatid sand</i> . | | |
| N | Jars | Draw | |
| 1 | - <i>Cysticercus bovis</i> in heart muscle. | | |
| 2 | - <i>Cysticercus tenuicollis</i> . | | |
| 3 | - <i>Cysticercus pisiformis</i> . | | |
| 4 | - <i>Coenurus cerebralis</i> . | | |
| 5 | - <i>Strobilocercus fasciolaris</i> . | | |
| 6 | - <i>Hydatid cyst</i> . | | |



Assesment Questions:

- Give short account on Metacestodes



Week 6

Date:.....

- 1- Classification of family Dipylididae.
- 2- Mention Morphological characters of Scolex, Mature segments and Gravid segments of adult *Dipylidium caninum*.
- 3- Classification of family Anoplocephalidae.
- 4- Discribe *Anoplocephala spp* and *Moniezia spp* in Jars also, mention Morphological characters of Scolex, Mature segments and Gravid segments of adult *Anoplocephala spp* and *Moniezia spp* and also its Eggs Microscopally.
- 5- Classification of family Thysanosomidae.
- 6- Discribe *Avitellina spp* in Jars also, mention Morphological characters of Mature segments and Gravid segments of adult *Avitellina spp* and *Stilesia spp* Microscopally.

| N | Slides | Draw | Signature |
|----|--|------|-----------|
| 1 | - <i>Dipylidium caninum</i> , scolex. | | |
| 2 | - <i>Dipylidium caninum</i> , Mature segments. | | |
| 3 | - <i>Dipylidium caninum</i> , Gravid Segments. | | |
| 4 | - <i>Anoplocephala perfoliata</i> , Scolex. | | |
| 5 | - <i>Moniezia spp</i> , Scolex. | | |
| 6 | - <i>Moniezia expansa</i> , Mature segments. | | |
| 7 | - <i>Moniezia expansa</i> , Gravid segments. | | |
| 8 | - <i>Moniezia benedeni</i> , Mature segments. | | |
| 9 | - <i>Moniezia benedeni</i> , Gravied Segments. | | |
| 10 | - <i>Moniezia spp</i> , Eggs. | | |
| 11 | - <i>Avitellina spp</i> , Mature segments. | | |
| 12 | - <i>Avitellina spp</i> , Gravid segment. | | |
| 13 | - <i>Stilesia spp</i> , Mature segments | | |
| N | Jars | Draw | |
| 1 | - <i>Anoplocephala perfoliata</i> , adult. | | |
| 2 | - <i>Moniezia spp</i> , adult. | | |
| 3 | - <i>Avitellina spp</i> , adult. | | |

Assesment Questions:

- Compare between *Avitellina spp* and *Stilesia spp*, Mature segment.



Week 7

Date:.....

- 1- Classification of family Davainidae.
- 2- Mention Morphological characters of Scolex, Mature segments and Gravid segments of adult *Raillietina spp* and *Cotugnea spp* Microscopally.
- 3- Classification of family Hymenolepididae.
- 4- Mention Morphological characters of Scolex, Mature segments and Gravid segments of adult *Hymenolepis spp*. Microscopally.
- 5- Compare between Cyclophyllidea and Pseudophyllidea.
- 6- Mention Morphological characters of Mature segments of adult *Diphyllobothrium latum* Microscopally.

| N | Slides | Draw | Signature |
|---|--|------|-----------|
| 1 | - <i>Raillietina tetragona</i> , scolex. | | |
| 2 | - <i>Raillietina cest icillus</i> , scolex. | | |
| 3 | - <i>Raillietina spp</i> , Mature segments. | | |
| 4 | - <i>Raillietina spp</i> , Gravid Segments. | | |
| 5 | - <i>Cotugnea spp</i> , Mature segments. | | |
| 6 | - <i>Hymenolepis dimenuta</i> , scolex. | | |
| 7 | - <i>Hymenolepis spp</i> , Mature segments. | | |
| 8 | - <i>Hymenolepis spp</i> , Gravid segments. | | |
| 9 | - <i>Diphyllobothrium latum</i> , Mature segments. | | |
| N | Jars | Draw | |
| 1 | ----- | | |

Assesment Questions:

- Compare between Cyclophyllidea and Pseudophyllidea.



Week 8

Date:.....

- 1- General Morphological characters and general biology of Nematoda.
- 2- Classification of Bursate Nematodes.
- 3- Mention Morphological characters of Buccal capsule and bursa of *Strongylus spp*, *Triodontophorus spp*, *Trichonema spp*, *Oesophagostomum spp*, *Amidostomum spp*, *Ancylostoma caninum*, *Bunostomum spp*, *Ostertagia spp*, *Haemonchus contortus* and *Dictyocaulus spp* Microscopally.

| N | Slides | Draw | Signature |
|----|--|------|-----------|
| 1 | - <i>Strongylus vulgaris</i> , Buccal capsule. | | |
| 2 | - <i>Strongylus spp</i> , adult male bursa. | | |
| 3 | - <i>Triodontophorus spp</i> , Buccal capsule. | | |
| 4 | - <i>Trichonema spp</i> , Buccal capsule. | | |
| 5 | - <i>Oesophagostomum spp</i> , anterior end. | | |
| 6 | - <i>Amidostomum spp</i> , anterior end. | | |
| 7 | - <i>Ancylostoma caninum</i> , anterior end. | | |
| 8 | - <i>Bunostomum spp</i> , Buccal capsule. | | |
| 9 | - <i>Ostertagia spp</i> , adult male bursa. | | |
| 10 | - <i>Haemonchus contortus</i> , adult male bursa. | | |
| 11 | - <i>Haemonchus contortus</i> , Female vulval flap. | | |
| 12 | - <i>Nematodirus spp</i> , adult male bursa. | | |
| 13 | - <i>Nematodirus spp</i> , adult female posterior end. | | |
| 14 | - <i>Dictyocaulus spp</i> , adult male bursa | | |
| N | Jars | Draw | |
| 1 | <i>Strongylus spp</i> , adult. | | |

Assesment Questions:

- Discribe with diagram types of esophagus of nematodes.



Week 9

Date:.....

- 1- Classification of Non Bursate Nematodes.
- 2- Discribe *Parascaris equorum* and *Toxocara vitulorum* in Jars and mention Morphological characters of anterior end and posterior end of *Parascaris equorum*, *Toxocara canis* , *Toxocara vitulorum*, *Ascaridia galli* and *Heterakis gallinae* Also, *Toxocara vitulorum* eggs Microscopally.
- 3- Discribe *Oxyuris equi* in Jars and mention Morphological characters of anterior end and posterior end of *Passalurus spp* male and female Also, *Oxyuris equi* eggs Microscopally.

| N | Slides | Draw | Signature |
|----|---|------|-----------|
| 1 | - <i>Parascaris equorum</i> , anterior end. | | |
| 2 | - <i>Toxocara vitulorum</i> , anterior end. | | |
| 3 | - <i>Toxocara canis</i> , anterior end. | | |
| 4 | - <i>Toxocara vitulorum</i> , Eggs. | | |
| 5 | - <i>Ascaridia galli</i> , anterior end. | | |
| 6 | - <i>Ascaridia galli</i> , posterior end. | | |
| 7 | - <i>Heterakis gallinae</i> , anterior end. | | |
| 8 | - <i>Heterakis gallinae</i> , posterior end. | | |
| 9 | - <i>Oxyuris equi</i> , Eggs. | | |
| 10 | - <i>Passalurus spp</i> , adult male. | | |
| 11 | - <i>Passalurus spp</i> , female posterior end. | | |
| N | Jars | Draw | |
| 1 | <i>Parascaris equorum</i> , adult | | |
| 2 | <i>Toxocara vitulorum</i> , adult | | |
| 3 | <i>Oxyuris equi</i> , adult. | | |



Assesment Questions:

- Compare between *Ascaridia galli* and *Heterakis gallinae*



Week 10

Date:.....

- 1- Describe *Habronema spp* in Jars and mention Morphological characters of anterior end and posterior end of *Habronema spp* and *Tetrameris amricana* Microscopally.
- 2- Mention Morphological characters of anterior end of *Setaria equi* also, *Microfilaria* Microscopally.
- 3- Mention Morphological characters of *Trichuris spp* Female and Male posterior end, *Capillaria spp* female and *Trichinella spiralis* encysted larvae Also, *Trichuris spp* eggs Microscopally.
- 4- Mention Morphological characters of *Acanthocephala* Microscopally.

| N | Slides | Draw | Signature |
|----|--|------|-----------|
| 1 | - <i>Habronema muscae</i> , anterior end. | | |
| 2 | - <i>Habronema microstoma</i> , anterior end. | | |
| 3 | - <i>Habronema spp</i> , posterior end. | | |
| 4 | - <i>Tetrameris amricana</i> , adult female. | | |
| 5 | - <i>Setaria equi</i> , buccal capsule. | | |
| 6 | - <i>Microfilaria</i> , in blood film. | | |
| 7 | - <i>Trichuris spp</i> , adult female. | | |
| 8 | - <i>Trichuris spp</i> , adult male posterior end. | | |
| 9 | - <i>Trichuris spp</i> , Eggs. | | |
| 10 | - <i>Capillaria spp</i> , adult female with eggs. | | |
| 11 | - <i>Trichinella spiralis</i> encysted larvae. | | |
| | - <i>Acanthocephala</i> | | |
| N | Jars | Draw | |
| 1 | - <i>Habronema spp</i> | | |
| 2 | <i>Toxocara vitulorum</i> , adult | | |
| 3 | <i>Oxyuris equi</i> , adult. | | |



Assesment Questions:

- Discuss with diagram stomach worm of equine.



Student Activity

The Type of student activity:.....

.....

...

The Topic of the Activity:.....

.....

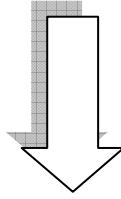
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Supervisors of the Activity:

| Date | Signature |
|------|-----------|
| | |



Summative Assessment



| Assessment | Mark | Signature |
|-----------------------|------|-----------|
| Practical Exam | | |
| Oral Exam | | |
| Final Written exam | | |