



FACULTY	HEALTH SCIENCES AND VETERINARY MEDICINE		
SCHOOL	VETERINARY MEDICINE		
DEPARTMENT	PARACLINICAL STUDIES		
SUBJECT	VETERINARY PARASITOLOGY I		
SUBJECT CODE	V3731AP		
DATE	JUNE 2024		
DURATION	3 HOURS	MARKS	150
FIRST OPPORTUNITY EXAMINATION PAPER			

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This Examination Paper consists of Six (6) pages including this cover page.

Instructions:

- i. The question paper is divided into three (3) sections. Read and understand the instruction for each Section.
- ii. Indicate your student number on every page of your answer script.
- iii. Write legibly.

SECTION A: NEMATODES. [70 marks]

Answer only seven (7) questions in this section.

1. *Teladorsagia* is an important helminth parasite of small ruminants. Discuss its pathogenesis and pathology. **[10 marks]**
2. Discuss the somatic migration adopted by *Toxocara canis* parasite in dogs. **[10 marks]**
3. *Oxyuris equi* is an important parasite of horses. Describe the pathogenesis of the parasite and the associated clinical signs/presentation. **[10 marks]**
4. Discuss the pathogenesis and pathology associated with *Dictyocaulus viverrini* infection in horses, under the following sub-headings:
 - a. Penetration phase. **[2 marks]**
 - b. Prepatent phase. **[5 marks]**
 - c. Patent phase. **[3 marks]**
5. Briefly discuss the phenomenon of peri-parturient egg count rise observed in helminth infections and its epidemiological importance. **[10 marks]**
6. *Ancylostoma caninum* is an important helminth of domestic dogs, often associated with bloody diarrhoea in puppies and can cause death. The parasite is characterized by many transmission routes, with the trans-mammary transmission pathway being one of the most important. Briefly discuss this transmission (trans-mammary) pathway, emphasizing its epidemiological importance. **[10 marks]**
7. *Ascaridia galli* is considered the most common nematode of birds, with domestic chickens as the principal host. In the chickens, non-confined birds have been observed to have the highest prevalence. In the host, the parasite

has a non-migratory life cycle, with the small intestines being the predilection site. Briefly outline the pathogenesis and pathology associated with infection by the following stages of the parasite:

a. Larval stage. **[7 marks]**

b. Adult stage. **[3 marks]**

8. A dog is presented to your practice with a complaint of a distended abdomen. On examination, you observe that the dog has ascites, hence the distended abdomen. Your further examination leads you to suspect left-sided heart failure.

a. Name the most likely parasite that can cause such pathology and clinical presentation. **[2 marks]**

b.

Briefly discuss the pathogenesis associated with infection with the parasite named in (a) above, leading to the observed pathology and clinical presentation. **[8 marks]**

SECTION B: CESTODES [50 MARKS]
Answer all questions from this section.

1. Describe the following metacestode forms:

a. Cysticercus. [2 marks]

b. Hydatid cyst. [2 marks]

c. Coenurus. [2 marks]

d. Strobilocercus. [2 marks]

e. Plerocercoid. [2 marks]

2. Complete the table below.

[10 marks]

Taenia species	Final host	Intermediate host	Cystic stage
<i>Taenia saginata</i>		Cattle	
<i>Taenia solium</i>	Humans		
<i>Taenia hydatigena</i>	Dog		
<i>Taenia pisiformis</i>			<i>Cysticercus pisiformis</i>
<i>Taenia taeniaeformis</i>			<i>Strobilus fasciolaris</i>

3. **Describe the pathogenesis and pathology** associated with infection by *Echinococcus granulosus* s.l in the intermediate hosts (hydatid cyst formation).

[10 marks]

4. Discuss the factors which affect the transmission of *Taenia solium*. **[10 marks]**

5. Briefly discuss the pathogenesis and pathology of *Anoplocephala perfoliata* perfoliata infection in horses. **[10 marks]**

SECTION C: TREMATODES

[30 MARKS]

Answer all questions in this section.

1. Describe the following larval stages of trematodes:

a. Miracidium. [2 marks]

b. Sporocyst. [2 marks]

c. Redia. [2 marks]

d. Cercaria. [2 marks]

e. Metacercaria. [2 marks]

2. Describe the **pathogenesis** of *Gastrodiscus aegypticus* infection and its associated **pathology** and **clinical presentation**. [10 marks]

3. Pathology of *Schistosoma* spp. infection in livestock can be due to egg deposition and extrusion or it can be due to the chronic stage associated with tissue proliferation. Describe the pathogenesis associated with the stage of egg deposition and extrusion. [10 marks]

END OF EXAMINATION.