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BACHELOR OF MEDICAL LABORATORY SCIENCES HONOURS
MDU3306 – MEDICAL PARASITOLOGY
FINAL EXAMINATION

DATE: 9th MARCH 2022 TIME: 01.30 PM – 04.30 PM

Part B: Structured Essay Questions (40 marks)

Q-1

A 24-year-old female patient presented to the genito-urinary unit of Teaching Hospital, Karapitiya complaining of lower abdominal pain and yellowish green, malodorous vaginal discharge. A pelvic exam was performed and mild cervical tenderness was noted. The cervix was red, and inflamed. Wet mount preparation of the vaginal discharge showed numerous organisms with quivering motility.

1.1 What is your probable diagnosis and the causative organism? (2 marks)

Probable diagnosis .....

Causative organism .....

1.2 State other non-pathogenic species of the above organism that resides in humans along with their habitat. (3 marks)

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1.3 Briefly explain the other methods used for laboratory diagnosis of the above organism. (5 marks)

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(Total 10 marks)

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Q-2

A 3-year-old boy presented to the Pediatric Unit of Lady Ridgway Hospital with intermittent diarrhea and gradual weight loss during the last 3 months. On clinical examination the Pediatrician found growth retardation and malabsorption syndrome. Macroscopy of the stool specimen showed greasy, foul-smelling, frothy stools. Iodine preparation of stool examination showed cysts with remnants of flagella.

2.1 What is the most probable diagnosis and the causative organism? (2 marks)

Probable diagnosis .....

Causative organism .....

2.2 List the morphological features that would help you to differentiate the causative organism mentioned in the 2.1, from *Chilomastrix mesnili*. (4 marks)

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2.3 Briefly describe the prevention and control of the disease caused by the organism mentioned in 2.1. (4 marks)

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(Total 10 marks)

Q-3

A 2-year-old girl was admitted to the Emergency Treatment Unit of Teaching Hospital Trinchomalee with a history of refusal of feeds, hyperactive bowel sounds, vomiting and a change in stool texture.. After a series of investigations, patient was diagnosed of having Amoebic Dysentery.

3.1 State the laboratory diagnosis of Amoebic Dysentery? (4 marks)

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3.2 How do you morphologically differentiate *Entamoaeba histolytica* from *Entamoaeba dispar*? (3 marks)

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3.3 Briefly explain the importance of identifying non-pathogenic intestinal amoeba in faecal specimen when diagnosing Amoebic Dysentery. (3 marks)

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(Total 10 marks)

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Q-4

Malaria rapid diagnostic tests (RDTs) assist in the diagnosis of malaria by detecting evidence of malaria parasites (antigens) in human blood.

4.1 Briefly explain the principle behind RDT used for malaria diagnosis (5 marks)

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4.2 Name two (02) malaria antigen types that are used in RDTs. (2 marks)

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4.3 List three (03) advantages of Loop Mediated Isothermal Amplification (LAMP) method. (3 marks)

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(Total 10 marks)

Part C: Essay Question (30 marks)

1. Describe the life cycle of *Plasmodium vivax*. (15 marks)

2. Write short notes on the following. (15 marks)

   2.1 Differentiating features of *Wuchereria banchrofti* and *Brugia malayi* microfilariae

   2.2 Pathogenesis of hydatid disease.

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