



BRAINWARE UNIVERSITY

Term End Examination 2025-2026
Programme – DMLT-2023/DMLT-2024
Course Name – Clinical Microbiology
Course Code - DMLT403
(Semester IV)

Full Marks : 60

Time : 2:30 Hours

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A

(Multiple Choice Type Question)

1 x 15=15

1. Choose the correct alternative from the following :

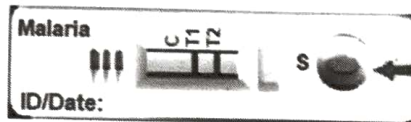
- (i) Which biosafety level (BSL) is required for handling pathogens that pose a moderate risk and can cause human disease but are not easily transmitted?
 - a) BSL-1
 - b) BSL-2
 - c) BSL-3
 - d) BSL-4
- (ii) Why is the tape method preferred for detecting *Enterobius vermicularis* eggs?
 - a) Because pinworm eggs are mainly found in stool
 - b) Because pinworm eggs are deposited around the anus at night
 - c) Because the method is the fastest way to detect all parasitic infections
 - d) Because it requires complex lab equipment
- (iii) Choose the correct statement regarding hookworm infection
 - a) Hookworm infection can cause pneumonia
 - b) Hookworm infection is acquired by humans when filariform larvae penetrate the skin
 - c) Hookworm infection is caused by *Necator americanus*
 - d) Hookworm infection can be diagnosed by finding the trophozoite in the stool
- (iv) In malaria infection, select the stage of plasmodia that is transmitted from female anopheles to man
 - a) Sporozoite
 - b) Gametocyte
 - c) Merozoite
 - d) Hypnozoite
- (v) Choose the correct statement with respect to *Taenia solium*
 - a) Cow is its intermediate host
 - b) Human is its definitive host
 - c) Its infection can cause vitamin B12 deficiency
 - d) Its larval stage is not found in human
- (vi) Select the correct statement regarding *Plasmodium falciparum*
 - a) causes relapse after a primary infection
 - b) causes malignant tertian malaria
 - c) has a band-shaped trophozoite
 - d) has crescent-shaped schizonts
- (vii) Select the parasite responsible for malabsorption syndrome
 - a) *Giardia lamblia*
 - b) *Cryptosporidium parvum*
 - c) *Balantidium coli*
 - d) Other
- (viii) Choose the parasitic infection that is responsible for splenomegaly
 - a) *Plasmodium vivax*
 - b) *Trichuris trichiura*
 - c) *Hymenolepis nana*
 - d) Others
- (ix) A 45 year old man is diagnosed with AIDS, he was living with HIV for more than 5 years. Which of the following statements is true regarding the diagnosis of the disease?
 - a) A low CD4+ T cell count (>200 cells/mm³)
 - b) It occurs at the early stage of the HIV infection
 - c) The person with AIDS can live up to 10 years
 - d) The virus is usually in a dormant state during this stage
- (x) Which of the following drug have shown significant results in reducing the transmission of HIV infection from a pregnant mother to a baby?
 - a) Acyclovir
 - b) Zidovudine
 - c) Ceftriaxone
 - d) None of the above
- (xi) Which of the following is a symptom of AIDS?
 - a) Fever
 - b) Swollen lymph nodes
 - c) Tiredness
 - d) All of these
- (xii) Development of vaccine is difficult for AIDS because env gene___(choose correct option to fill the gap).
 - a) integrates its genome into that of helper T cells
 - b) undergoes reverse transcription
 - c) undergoes mutation at rapid rate
 - d) integrates into large number of host genes
- (xiii) After Giemsa staining, the cytoplasm of the malarial parasite appears as___ (Identify the correct answer to fill the gap)
 - a) Dark red colour
 - b) Dark purple

- c) Blue colour
(xiv) Identify the vector of lymphatic filariasis.
a) Aedes mosquito
c) Sandfly
(xv) Identify the common cause of severe diarrhea in children.
a) Norovirus
c) E. coli
- d) White red
b) Anopheles mosquito
d) Housefly
b) Rotavirus
d) Giardia

Group-B
(Short Answer Type Questions)

3 x 5=15

2. Explain the QBC technique to detect malarial parasites. (3)
 3. Discuss the diagnostic stage in the case of micro-filarial infection. (3)
 4. Describe the basic laboratory setup of a BSL 2 grade laboratory (3)
 5. What is a merozoite? (3)
 6. IS HIV curable? analyse it according to HIV infection and diagnosis approach. (3)
- OR
- (3)

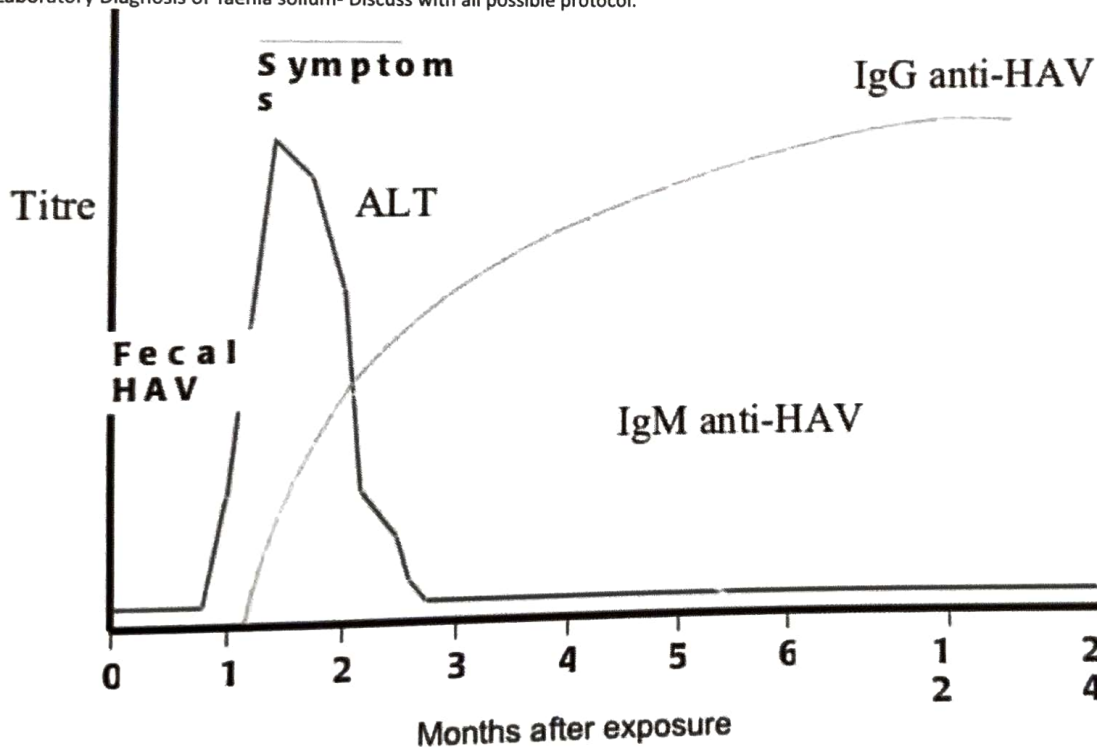


Evaluate the rapid test kit testing result of the malarial disease detection with all possible discussion.

Group-C
(Long Answer Type Questions)

5 x 6=30

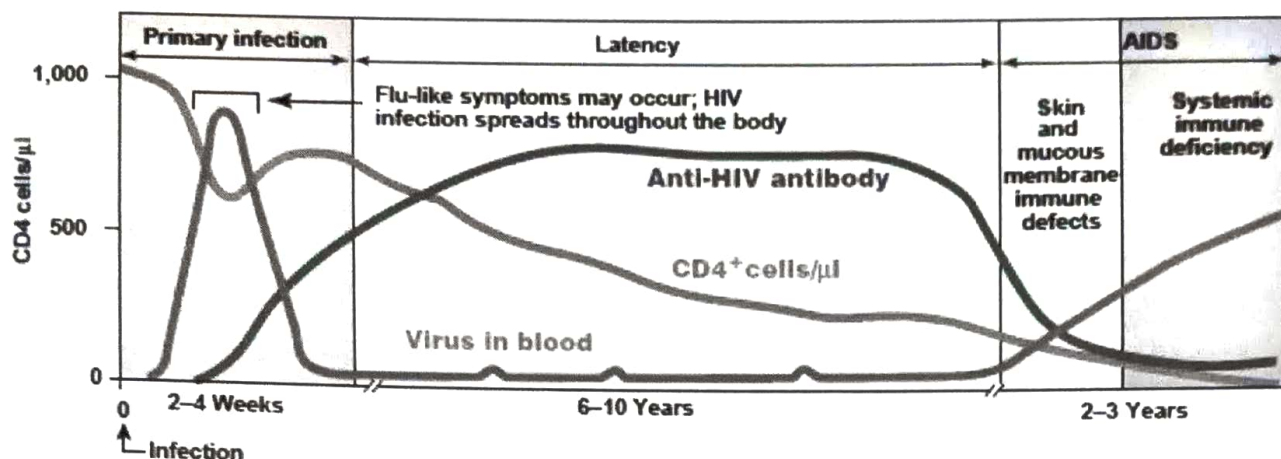
7. Discuss HAART concept briefly. (5)
8. Laboratory Diagnosis of Taenia solium- Discuss with all possible protocol. (5)
9. (5)



-Evaluate ALT, IgG and IgM titre to correlate HAV infection diagnosis

10.

(5)



-Evaluate the correlation between Anti HIV antibody , CD4+ cells count with viral load in the blood.

11. Distinguish between quality control and quality assurance

(5)

12. Illustrate the activity spectrum of the following detegents and disinfectants through flow chart: Alcohol, ammonia, phenol, iodine, Cl compounds

(5)

OR

Explain the primary & secondary barriers and also discuss the universal precautions that are to be observed in a BSL 2 lab

(5)

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