



KISII UNIVERSITY
UNIVERSITY EXAMINATIONS

**SECOND YEAR EXAMINATION FOR THE AWARD OF THE DEGREE OF
BACHELOR OF MEDICINE AND BACHELOR OF SURGERY [MBChB] AND
END YEAR 2022/2023
[MAY-AUGUST, 2023]**

**MEDS 222: MEDICAL MICROBIOLOGY I
PAPER I**

STREAM: Y2S3

TIME: 3 HOURS

DAY: MONDAY, 9:00 – 12:00 PM

DATE: 21/08/2023

INSTRUCTIONS

1. Do not write anything on this question paper.

Attempt all questions

- Which part of the compound microscope helps in gathering and focusing light rays on the specimen to be viewed?
A) Condenser lens B) Magnifying lens
C) Objective lens D) Eyepiece lens
- What is the intermediate host for schistosomes?
A) Soil B) Snails
C) Humans D) Raw sewage
-is where both organisms benefit from their association
A) Parasitism B) Commensalism
C) Saprophytism D) Mutualism
- An intestinal flagellate species known as the “only common pathogenic protozoan found in the duodenum and jejunum of humans is called:
A) Entamoeba histolytica B) Giardia lamblia
C) Balantidium coli D) Trichomonas vaginalis.
- Malarial parasites reproduce in:
A) Lung tissue B) Brain tissue
C) Red blood cells D) Placental tissue
- Which among the following parasitic infection that is often associated with fecally contaminated water (fecal-oral) or food?
A) Cryptosporidium parvum B) Toxoplasma gondii.
C) A and B above D) Giardia lamblia.

7.is the most common environmentally resistant form parasitic stage of development in parasites:
 - A) Cyst
 - B) Spore
 - C) Vegetarian
 - D) Trophozoite
8. Theis the definitive host of *Toxoplasma gondii* :
 - A) Pregnant women
 - B) Cats
 - C) Mosquitoes
 - D) Rats
9.is the etiological agent that cause human sleeping sickness:
 - A) *Leishmania donovani*
 - B) *Trypanosome cruzi*
 - C) *Leishmania tropica*
 - D) *Trypanasoma brucei* spp.
10. Which of the following worms have eggs that hatch in 48 hours to give rhabtidiform larva and molt to filariform larva after 2 days?
 - A) *Enterobius vermicularis*
 - B) *Ancylostoma duodenale*
 - C) *Strongyloides stercoralis*
 - D) Both B and C are correct.
11. The infective stage of the Hookworms is:called...
 - A) Eggs in feces
 - B) Embryonated eggs when ingested
 - C) Filariform larva penetrating the skin (usually the foot)
 - D) All of the above.
12. Which of the following parasite that is referred to is a whip-worm?
 - A) *Trichinella spiralis*
 - B) *Trichuris trichiura*
 - C) *Necator americanus*
 - D) *Strongyloides stercoralis*
13. Which of the following parasites that are/is commonly known as blood flukes?
 - A) *Schistosoma* species
 - B) *Hymenolopsis nana*
 - C) Nematodes
 - D) cestodes
14. The recommended diagnostic test for *Enterobius vermicularis* (seatworm/pinworm) is:
 - A) Direct fecal smear
 - B) Kato-Katz or Kato Thick Smear
 - C) Formol Ether Concentration Test
 - D) Per-anal or Cellulose Tape Swab.
15. Living organism that get their nourishment from another organism and cause harm are referred to as:
 - A) Parasites
 - B) Hosts
 - C) Commensals
 - D) Cannibals.
16. Intestinal obstruction is a complication of:
 - A) *Ascaris lumbricoides*
 - B) Hookworm
 - C) *Trichuris trichiura*
 - D) *Schistosoma mansoni*
17. Skin penetration is the mode of infection of:
 - A) Hookworm
 - B) *Ascaris lumbricoides*
 - C) *Trypanasoma haematobium*
 - D) *Leishmania donovani*
18. Each of the following statements concerning *Ascaris lumbricoides* is correct except:
 - A) *Ascaris lumbricoides* is one of the largest nematode
 - B) *Ascaris lumbricoides* can cause pneumonia

- C) Both dogs and cats are intermediate host of *Ascaris lumbricoides*
 D) *A. lumbricoides* is transmitted by ingestion of eggs.
19. What is the causative agent for Chaga's disease is;
 A) *Leishmania donovani* B) *Trypanosoma cruzi*
 C) *Leishmania tropica* D) *Trypanosoma brucei* spp.
20. Which of the following is appropriate sample for the microscopic detection of malarial parasites in humans?
 A) Stool B) Sputum
 C) Blood D) Urine
21. Which of the following parasite is transmitted to humans through exposure to cat feces?
 A) *Trichomonas vaginalis* B) *Toxoplasma gondii*
 C) *Entamoeba histolytica* D) *Plasmodium falciparum*
22. Which of the following parasite is a common cause of diarrhea in humans and some animals?
 A) *Giardia lamblia* B) *Leishmania donovani*
 C) *Toxoplasma gondii* D) *Pneumocystis carinii*
23. Which of the following protozoan parasite is transmitted to humans by the bite of a sandfly?
 A) *Entamoeba histolytica* B) *Plasmodium falciparum*
 C) *Trichomonas vaginalis* D) *Leishmania donovani*
24. All of the following statements are true regarding the parasite helminths, EXCEPT?
 A) It includes intestinal worms, hookworms, and whipworms
 B) They are found only in humans intestines
 C) Present in soil and can spread to humans through the ingestion
 D) Common in tropical parts of the world that lack good sanitary practices
25. Which of the following extracellular parasites can cause sleeping sickness that is prevalent in regions of Africa?
 A) *Trypanosoma brucei* B) *Treponema pallidum*
 C) Hookworms D) *Wuchereria bancrofti*
26. A 25 year old female living in a rural area of Ghana has swollen arms and a right leg with no other specific symptoms, due to the lack of proper examination and care facility, she did not get the right treatment during the initial phase of the infection. She is suspected to be suffering from lymphatic filariasis due to parasitic infection. Which of the following parasites that causes the majority of the lymphadenopathy/'Elephantiasis' in humans and transmitted by the bite of mosquitoes?
 A) Ringworm B) *Leishmania donovani*
 C) *Wuchereria bancrofti* D) *Taenia solium*
27. Which of the following single-cell parasite that is one of the major vector-borne blood cell parasite that causes human deaths in the world?

35. Each of the following parasites passes through the lung during human infection EXCEPT.....
- A) *Strongyloides stercoralis* B) *Necator americanus*
C) *Ascaris lumbricoides* D) *Trichuris trichiura*
36. Parasitic infection complicated by rectal prolapsed is.....
- A) Strongyloidiasis B) Trichuriasis
C) Ancylostomiasis D) Ascariasis
37. Steroids are of benefit in the treatment of.....
- A) *S. mansoni* B) *Trichinella spiralis*
C) *F. hepatica* D) Pinworm
38. A symbiotic association in which one organism is benefited and the other is harmed is known as.....
- A) Commensalism B) Mutualism
C) Parasitism D) Phoresis
39. The usual infective stage of *Schistosoma* to man is the....
- A) Miracidia B) Embryonated egg
C) Schistosomulae D) Forked cercariae
40. Which female parasite deposits ova in the perianal region, not in feces?
- A) *Enterobius vermicularis* B) *S. mansoni*
C) *Ancylostoma duodenale* D) *F. hepatica*
41. Bladder cancer can be associated with....
- A) *S. japonicum* B) *S. haematobium*
C) *S. mansoni* D) All of the above
42. The term describes the host harboring sexually mature forms of the parasite is.....
- A) Vector B) Intermediate host
C) Definitive host D) Transport
43. The laboratory diagnosis of *Strongyloides stercoralis* is made by finding.....

- A) Rhabditiform larva B) Embryonated egg
 C) Unembryonated egg D) Both b and c
44. Which of the following parasites is facultative parasite
- A) *Trichuris trichiura* B) *Strongyloides stercoralis*.
 C) *Ascaris lumbricoides* D) *Trichinella spiralis*
45. What parasite/s has a blood-lung phase in the life cycle.....
- A) *Ascaris lumbricoides* B) *Enterobius vermicularis*
 C) *Strongyloides stercoralis* D) Both a and c
46. Which among the following parasite that can be transmitted by autoinfection is
- A) *Trichuris trichiura* B) *Ancylostoma duodenale*
 C) *Strongyloides stercoralis* D) *Ascaris lumbricoides*
47. We can use molluscicides to kill the intermediate host of....
- A) *Wuchereria bancrofti* B) *S. haematobium*
 C) *F. hepatica* D) Both b and c
48. Skin penetration is associated with infection caused by
- A) *S. mansoni* B) *Ancylostoma duodenale*
 C) *F. hepatica* D) Both a and b
49. The parasite that causes inflammation in the walls of the lymphatic vessels is...
- A) *H. heterophyes* B) *S. mansoni*
 C) *Wuchereria bancrofti* D) *Trichinella spiralis*
50. Cysticercosis is caused by ingestion of.....
- A) *Taenia solium* egg B) Cyclops containing proceroid.
 C) *Cysticercus cellulosae* D) *Cysticercus bovis*.
51. Trichinellosis in humans results from.....
- A) Ingestion of pork containing encysted larvae B) Ingestion of eggs

C) Ingestion of pork containing cysticerci D) Penetration of larvae through the skin

52. Beef is the intermediate host of:

- A) *Taenia saginata* infection B) *Taenia solium* infection
C) *Hymenolepis nana* infection D) *Echinococcus multicularis*

53. *Ascaris* is also known as.....

- A) Segmented worm B) Crustacean
C) Giant roundworm D) Insects

54. *Giardia* trophozoites contains

- A) One nucleus B) Two nuclei
C) Three nuclei D) Four nuclei

55. Which of the following is the diagnostic stage of sleeping sickness?

- A) Amastigote B) Trypomastigote
C) Promastigote D) None of the above

56. Tsetse flies can transmits....

- A. *Trypanosoma brucei*
B. *Plasmodium falciparum*
C. *Trypanosoma cruzi*
D. *Giardia intestinalis*

57. Mosquitoes requires following necessity in order to complete their life cycle

- A. Water
B. Intermediate host
C. Vector
D. None

58. Helminth parasite found in muscles is

- A. *Trichinella spiralis*
B. *Haemonchus contortus*
C. *Trichostrongylus*
D. *Oesophagostomum*

59. *Taenia solium* could be present in

- A. Beef eating community
B. Pork eating community
C. Mutton eating community
D. All of the above

60. Which of the followings statements that is the correct?

- A. Almost all trematodes are hermaphrodite
B. All are hermaphrodite except Schistosomatidae
C. Members of Genus *Fasciola* are hermaphrodite
D. All of above

62. Regarding malaria parasite:

- A. Hypnozoite is found in *Plasmodium vivax* infection
B. The natural infective stage to human is the merozoite

- C. *Plasmodium malariae* infection commonly causes the highest parasitaemia
- D. Schizonts of *Plasmodium falciparum* are frequently found in the peripheral blood
63. Infection with this parasite can cause extensive damage to human urogenital structures:
- Schistosoma haematobium*
 - Ascaris lumbricoides*
 - Toxoplasma gondii*
 - Naegleria fowleri*
64. Infection with this parasite causes splenomegaly:
- Trichuris trichiura*
 - Fasciolopsis buski
 - Leishmania donovani*
 - Ascaris lumbricoides*
65. Each of the following statements concerning kala-azar is correct except:
- Kala-azar is caused by *Leishmania donovani*
 - Kala-azar is transmitted by the bite of sandflies
 - Kala-azar occurs primarily in rural latin America
 - Kala-azar can be diagnosed by finding amastigotes in bone marrow
66. Pigs or dogs are the source of human infection by each of the following parasites except:
- Echinococcus granulosus*
 - Taenia solium*
 - Ascaris lumbricoides*
 - Trichinella spiralis*
67. Each of the following statements concerning *Trichomonas vaginalis* is correct except:
- T. vaginalis* is transmitted sexually
 - T. vaginalis* can be diagnosed by visualizing the trophozoite
 - T. vaginalis* can be treated effectively with metronidazole
 - T. vaginalis* causes bloody diarrhea
- This is the effect on the renal system in urinary schistosomiasis:
- Hydrocele
 - Chyluria
 - Haematuria
 - None of the above
68. Cerebral malaria:
- shows sign of neck stiffness
 - is treated with chloroquine
 - is a complication of *Plasmodium falciparum* infection
 - is diagnosed by blood culture

69. Iron deficiency anaemia
- is the result of hypersplenism
 - causes a high serum ferritin level
 - can occur in chronic hookworm infection
 - is associated with *Entamoeba histolytica* infection
70. Regarding *Giardia lamblia*:
- Cyst is the infective stage
 - Red blood cells are found in the trophozoites
 - Its trophozoites can invade the mucosa of the large intestine of human
 - In severe infection, it can cause dysentery
71. Amoebic liver abscess
- has cyst stage in the pus
 - is treated with metronidazole
 - is usually located in the left lobe of the liver
 - all of the above
72. Congenitally acquired parasites include:
- Toxoplasma gondii*
 - Toxocara canis*
 - Cryptosporidium parvum*
 - Taenia solium*
73. Six months after a 2-week vacation in the countryside in Rift valley, a 22-year-old female patient developed irregular fever with chills and rigors, abdominal discomfort with hepatosplenomegaly. These clinical manifestations are thought to be due to an infection acquired via insect bite. The likely organism to cause these clinical manifestations is
- Trypanosoma cruzi*
 - Leishmania donovani*
 - Toxoplasma gondii*
 - Trypanosoma brucei*
74. Mosquito is the definitive host of this parasite:
- Plasmodium vivax*
 - Plasmodium falciparum*
 - Plasmodium ovale*
 - Brugia malayi*
75. A 28-year-old-woman at 20 weeks gestation returned from Ethiopia and presented with a history of fever, soft-tissue swelling of the forehead with severe regional lymphadenopathy. Blood smear shows *Trypanosoma brucei*. The treatment of choice is
- Albendazole
 - Ivermectin
 - Suramin
 - Mebendazole

76. The control measures for the following parasites include periodical deworming, health education and improved sanitation to reduce soil contamination with infective eggs
- A. *Ascaris lumbricoides*
 - B. *Enterobius vermicularis*
 - C. *Trichinella spiralis*
 - D. *Trichuris trichiura*
77. Mosquito is the definitive host of this parasite:
- A. *Plasmodium ovale*
 - B. *Brugia malayi*
 - C. *Wuchereria bancrofti*
 - D. *Leishmania tropica*
78. Each of the following statements concerning *Giardia lamblia* is correct except:
- A. *G. lamblia* has both a trophozoite and cyst stage in its life cycle
 - B. *G. lamblia* is transmitted by the fecal oral route from both human and animal sources
 - C. *G. lamblia* causes hemolytic anemia
 - D. *G. lamblia* can be diagnosed by the string test
79. American trypanosomiasis is also called
- A. Chagas disease
 - B. Plasmolysis
 - C. Fever
 - D. Whooping cough
80. Amoebic dysentery in man is caused by
- A. *Entamoeba coli*
 - B. *Entamoeba gingivalis*
 - C. *Entamoeba histolytica*
 - D. *Entamoeba hartmani*
81. Protozoal parasites belonging to class Mastigophora are characterized by having
- A. Cilia
 - B. Flagella
 - C. Cyst
 - D. Rhizopoda
82. Biological vector of sleeping sickness is
- A. Tsetse fly
 - B. Horse fly
 - C. House fly
 - D. None
83. Which of the following best describes a hyperparasite
- A. Parasite within a parasite
 - B. Parasite which depends on the host for its entire life

- C. An organism that exhibits both parasitic and non-parasitic modes of living
D. All of the above
84. Gastro-intestinal disturbances associated with giardiasis include
A. Flatulence
B. Bloating
C. Purple burbs
D. All above
85. Drug of choice against Giardiasis is
A. Metronidazole
B. Paramomycin
C. Furazolidone
D. Quinacrin
86. American trypanosomiasis is transmitted by
A. Kissing bugs
B. Tsetse fly
C. Both
D. Horse fly
87. Leishmaniasis is transmitted by
A. Sand fly
B. Tsetse fly
C. Horse fly
D. House fly
88. Visceral leishmaniasis is also known as
A. Kala azar
B. Dum dum fever
C. Both
D. None
89. Kala azar is also called as
A. Cutaneous leishmaniasis
B. Visceral leishmaniasis
C. Both
D. None
90. Which of the following mosquito species is the vector for Zika virus and Yellow Fever
A. The *Anopheles* mosquito
B. *Culex* mosquito
C. *Aedes aegypti*
D. All of the above
91. The causative agent for Tinea pedis is:
A. Epidermatophyton
B. Tinea nigra
C. Mycetoma

D. Histoplasma

92. Cryptococcal meningitis is caused by:

- A. Cryptococcus
- B. Cryptococcus neoformans
- C. Diplococcus
- D. Histoplasma capsulatum

93. A fungus that can exist as a mold in the soil and spherule in the tissues is termed as:

- A. Diploid
- B. Diplococcus
- C. Dimorphic
- D. Polymorphic

94. *Aspergillus fumigatus* is responsible in causing a disease called:

- A. Coccidioidomycosis
- B. Histoplasmosis
- C. Candidiasis
- D. Aspergillosis

95. Dermatophytosis is commonly known as:

- A. Nails infection
- B. Skin rashes
- C. Ringworm
- D. Skin infection

96. *Histoplasma* is transmitted in the form of:

- A. Microconidia
- B. Yeast
- C. Conidia
- D. Arthrospores

97. *Blastomyces* is a genus that causes a condition in humans named as:

- A. *Tinea versicolor*
- B. Mycetoma
- C. Sporotrichosis
- D. Blastomycosis

98. The habitat for the *Aspergillus* across the world is:

- A. Water
- B. Soil
- C. Mud
- D. Streams

99. Tinea pedis is the scientific name of a foot disease that is commonly called:

- A. Ringworm
- B. Athlete foot
- C. Skin rash
- D. Skin infection

100. The natural habitat for the *paracoccidioides brasiliensis* is:

- A. Soil
- B. Water
- C. Mud
- D. Skin

101. Histoplasmosis is caused by one of the following:

- A. *Coccidioides immitis*
- B. *Candida albicans*
- C. *Aspergillus fumigatus*
- D. *Histoplasma capsulatum*

102. The infection of the keratinized layer of the skin by a fungus is called:

- A. Tinea versicolor
- B. Tinea nigra
- C. Sporotrichosis
- D. Chromomycosis

103. *Rhizopus* is a causative agent for:

- A. Mucormycosis
- B. Candidiasis
- C. Aspergillosis
- D. Histoplasmosis

104. The hair, nails and dead skin of the epidermis are collectively named as:

- A. Systemic structures
- B. Subcutaneous structures
- C. Auxillary structures
- D. Cutaneous structures

105. What is the portal of entry for *Histoplasma*?

- A. Skin
- B. Respiratory tract
- C. Urinary system
- D. Reproductive system

106. *Cryptococcus* is transmitted in the form of:

- A. Spores
- B. Yeast

C. Conidia

D. Hyphae

107. A young man has a well demarcated and moist rash around his groin and the inside of both his legs. Diagnosis reveals a fungal infection. What type of infection could he be suffering from?

A. Tinea unguium

B. Tinea pedis

C. Tinea corporis

D. Tinea carpitis

108. Is a fungal infection which manifest with lesions that become tumours and cauliflower like in a patient:

A. Chromoblastomycosis

B. Candidiasis

C. Mucormycosis

D. Blastomycosis

109. *Lacazia loboi* is aetiological agent for:

A. Sporotrichosis

B. Lobomycosis

C. Rhinosporidiosis

D. Phycomycosis

110. Is not a virulent factor for *Blastomyces dermatitidis*:

A. Thick cell wall

B. Surface Proteins

C. Toxins

D. Cytokines

111. One of the following is NOT a risk factor for Zygomycosis:

A. Malaise

B. Diabetes

C. Kidney disease

D. Splenectomy

112. Is NOT one of the chemotherapeutic agents for fungal infections:

A. Itraconazole

B. Ampicillin

C. Amphotericin B

D. Nystatin

113. Is a predisposing factor to fungal infections:

A. Water

B. Food

C. Cancer

D. Antibiotics

114. Is an enzyme enabling dermatophytes to infect the Nails:

- A. Amylases
- B. Lipases
- C. Keratinases
- D. Elactases

115. A patient manifest lesions on the glabrous skin at the back of his body, upon examination it was found to be a fungal infection. Which is the likely fungal agent responsible?

- A. Trichophyton rubrum
- B. Candida albicans
- C. Malassezia furfur
- D. Rhizopus species

116. Candida albicans is one of the opportunistic infections among AIDS patients. One of the following is the preferred sample taken from patients for diagnosis of suspected brain infection:

- A. Stool
- B. Blood
- C. CSF
- D. Urine

117. The common virulent factor for Aspergillus species is:

- A. Cytokinins
- B. Aflatoxins
- C. Capsule
- D. Enzymes

118. One of the following is the most effective antifungal agent for Cryptococcosis:

- A. Streptomycin
- B. Penicillin
- C. Gentomycin
- D. Nystatin

119. One of the following is the common microscopic diagnostic feature in a sample taken from a patient with a fungal infection:

- A. Cysts
- B. Mycetoma
- C. Microconidia and Macroconidia
- D. Vacuolated cells

120. The slide below shows a fungal infection. Identify the likely infection using the clinical signs:



- A. Histoplasmosis disseminated
- B. Zygomycosis
- C. Lobomycosis
- D. Aspergillosis