



TECHNICAL UNIVERSITY OF MOMBASA

FACULTY OF APPLIED AND HEALTH SCIENCES

DEPARTMENT OF MEDICAL SCIENCES

UNIVERSITY EXAMINATION FOR:

DMLS2016 S

AML2308 : VECTOR BIOLOGY OF HUMAN PATHOGENS

END OF SEMESTER EXAMINATION

SERIES: AUGUST 2019

TIME: 2 HOURS

DATE: Pick Date Aug 2019

Instructions to Candidates

You should have the following for this examination

-Answer Booklet, examination pass and student ID

This paper consists of **TWO** Section(s). Attempt ALL questions.

Circle the correct answer in section A. PAPER 1

Section A

Q1) The fresh water mollusk which is a vector for *S. mansoni* is:

- a) An insect
- b) An arthropod
- c) *Biomphalaria pfeifferi*.
- d) An organism that transmits a pathogen from reservoir to the host.

Q2) *Onchomelania* transmits:

- a) *S. haematobium*
- b) *S. intercalatum*
- c) *S. japonicum*
- d) *S. mansoni*

Q3) The following diseases are not transmitted by mosquitoes

- a) sleeping sickness
- b) typhus
- c) plague
- d) relapsing fever.

Q4) Mosquitoes may not transmit

- a) Plasmodium
- b) Bilharzia
- c) WNV
- d) Filaria worms.

Q5) Ticks are vectors of the following pathogens:

- a) Yellow fever
- b) Dengue
- c) Malaria
- d) Rocky mountain spotted fever

Q6) The transmission of Bilharzia is by

- a) Ingestion
- b) Food contamination.
- c) Human cercaria penetration
- d) Contamination

Q7) The biology of the eggs, larvae pupae are important components of:

- a) Research
- b) Control mechanism
- c) Control strategies
- d) Vector control strategy

Q8) The larvae of the following mosquitoes are associated with biological control.

- a) Toxorynchites.
- b) Anopheles
- c) Asian Tiger

d) Aedes mosquito

Q9) Biomphalaria snails are commonly known to transmit

- a) Malaria
- b) Bilharzia mansoni
- c) Cestodes
- d) Nematodes

Q10) The larvae of the following mosquitoes can be controlled by water surface modulation

- a) Toxrynchite
- b) Aedes
- c) Mansonia
- d) Culex.

Q11) The following mosquito eggs do not have rafts

- a) Aedes
- b) Bironella
- c) Chagasia
- d) Anopheles.

Q12) The Anopheles mosquito larvae breath through:

- a) Their mouths
- b) Cuticles
- c) Spiracles.
- d) Hair brashes

Q13) Salivary glands of culex mosquitos

- a) Have one lob
- b) Have four lob

- c) Have three lobes
- d) Are lobless

Q14) The arthropods which feed on human blood are called

- a) Blood feeders
- b) Anthropophilic
- c) Zoophilic
- d) Zoophagic

Q15) The life span of a mosquito in a conducive environment is

- a) Two days
- b) 27 days
- c) One month .
- d) Six days

Q16) Odors which attract anthropophilic insects to their hosts include:

- a) Nitrogen.
- b) Oxygen
- c) Formalin
- d) Vapour

Q17) The eggs of mosquitoes which are hatched in installment include those of:

- a) *Mansonia*
- b) *Albopictus*
- c) *Psorophora*
- d) *Anopheles*

Q18) The best environment for *Glossina palpalis* is:

- a) Desert
- b) Marine
- c) Riverine.
- d) Forest areas.

Q19) The dispersal of mosquito habitat include

- a) Brakish water
- b) Swamps
- c) Tin cans
- d) All the above

Q20) Tsetse fly can be identified by using the following features:

- a) A wing showing a hatchet cell.
- b) Bushy antenna
- c) Large eyes
- d) Cephalothorax

Q21) The common factor for all types of mosquito larvae is

- a) Presence of siphone
- b) Absence of siphone
- c) Presence of sclerotised siphone
- d) All are aquatic

Q22) Lymphatic filariasis is transmitted by:

- a) Brugia malayi
- b) Loa loa
- c) O. Volvulus
- d) Mansonella perstans

23) The following snails are vectors of S. haematobium

- a) Biomphalaria choanomphala.
- b) Bulinus globosus
- c) Onchmelania
- d) Marisa

24) The the trichina tissue cyst is called.

- a) Nurse cell.

- b) Monocyte
- c) basophil
- d) Neutrophil

25) The Vector for *Dicrosolium dentriticum* is.

- a) *Bulinus globosus*
- b) *Biomphalaria pfeifferi*
- c) *Lymnea stagnalis*
- d) Ant (formica)

26) The best time for cercarial shading is:

- a) 4pm
- b) 9am to 12 noon
- c) 12 midnight
- d) 12 noon

27) An example of *Fasciola* vector is

- a) *Bulinus globosus*
- b) *Bulinus truncatus*
- c) *Biomphalaria feifferi*
- d) *Lymnea stagnalis*

28) The most important and common factor for all mosquitoes is:

- a) The larvae are aquatic
- b) The larvae are dormant
- c) They lay eggs on fresh water
- d) They bite during the day

29) The control method that can be instituted against the larvae of *Mansonia* is:

- a) Oil on water surface
- b) Remove submerged plants
- c) Larviciding the water
- d) Remove water cans

30) The description that fits *Albopictus* mosquito is:

- a) Spotted black and white
- b) Spotted black and white with compound eyes
- c) Scaly brown
- d) Spotted black and brown

- 31) The best control method for anopheles mosquito larvae is
- Larvicides.
 - insecticides
 - molluscicides
 - use of mosquito nets
- 32) The best environment for *Biomphalaria pfeifferii* is
- Brackish water
 - Sea water
 - River water
 - Fresh water.
- 33) The following *Glossina* species are forest flies
- G. palpalis*
 - G. swinatoi*
 - G. morsitans*
 - G. palidipes*
- 34) In Kenya the vector for *Onchocerca volvulus* is
- Chrysops
 - Cuicoides
 - Mosquito
 - Smulium.
- 35) Transmission of *Leishmania* is prevalent around
- Eastern region of Kenya
 - North eastern of Kenya
 - Coastal region of Kenya
 - Central Province
- 36) Louse are vectors of
- Malaria
 - Typhus.
 - HIV
 - Plague
- 37) The rat which is associated with fleas of medical importance is
- Rattus rattus*.
 - white rats
 - Brown rats

d) Black rats

38) Predacious larvae are those of

- a) Aedes mosquito
- b) Culex mosquito
- c) Aedes mosquito
- d) Toxorhynchite.

39) The Plumes antennae found on the upper side of the third antennal segment is diagnostic for

- a) Anopheles mosquito
- b) Culex fatigans
- c) Glossina species
- d) sand fly

40) The Mosquito eggs which are laid off show are those of

- a) Mansonia
- b) Anopheles
- c) Toxorhynchite
- d) Albopictus mosquito.

Section B

Q41) Write in detail the general biology of Mosquito-----20 marks

Q42) Explain the biology of *Bulinus globosus*----- 20marks

Q43) Describe mosquito behavior under the following titles

- Night feeding habit
- Day feeding habits
- Host choice.
- Host finding-----20 marks

