



# TECHNICAL UNIVERSITY OF MOMBASA

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FACULTY OF APPLIED AND HEALTH SCIENCES

DEPARTMENT OF MEDICAL SCIENCES

**UNIVERSITY EXAMINATION FOR:**

**DMLS**

**AML2308 : VECTOR BIOLOGY**

**END OF SEMESTER EXAMINATION**

**SERIES: DECEMBER 2016**

**TIME: 2 HOURS**

**DATE: 10 Dec 2016**

## **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.**

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Q1 A vector is described as

- a) An insect
- b) An arthropod
- c) A gastropoda
- d) An organism that harbors a pathogen and transmits the same

Q2 The pathogens that are transmitted by mosquitoes include

- a) Chagas
- b) Leishmania
- c) Plague
- d) West Nile virus

Q3 The sub family of mosquitoes responsible for the transmission of Filarial worms is

- a) Toxorynchitinae
- b) Anophelinae
- c) Culicinae
- d) Haemagogus

Q4 Babesia microti is transmitted by:

- a) Culex mosquito
- b) Anopheles mosquito
- c) Fleas
- d) Exodid Ticks

Q5 The biology of egg, larvae, pupae and Imago is important for:

- a) Research issues
- b) Prevention mechanism
- c) Control mechanism
- d) Pathogen control strategies

Q6 The following mosquitoes do not transmit diseases:

- a) Asian tiger
- b) Aedes albopictus
- c) Anopheles gambiae
- d) Toxorynchite

Q7 Lymnea stagnalis is associated with:

- a) Bilharzia
- b) Fasciolopsis
- c) Fasciola hepatica
- d) Schistosomiasis

Q8 Water surface modulation cannot be used to control the larvae of:

- a) Anopheles
- b) Aedes
- c) Mansonia
- d) Asian tiger

Q9 The eggs which are laid with floats are those of:

- a) Culex
- b) Aedes
- c) Sabethes
- d) Anopheles

Q10 The presence of a siphone on the larvae of mosquito is characteristic feature of:

- a) Culicinae
- b) Hemagogus
- c) Anophelinae
- d) Sabethes

Q11 The developmental stage of Plasmodium found in the salivary gland of mosquito is:

- a) Sporozoite
- b) Zygote
- c) Ookinet
- d) Bradizoite

Q12 The mosquito egg fecundity depends on:

- a) Rainfall
- b) Human blood
- c) Available surface water
- d) Availability of wildlife

Q13 The vectors which transmit mucocutaneous leishmaniasis are:

- a) Sand flies
- b) Triatomine bugs
- c) Reduviid bugs
- d) Ticks

Q14 Arthropods are attracted to their victims by:

- a) Vapours
- b) Gases
- c) Oxygen
- d) Carbondioxide

Q15 The ecology of *Glossina morsitans* is

- a) Tropical rainforest
- b) Wood land savanna
- c) Marine forest
- d) Savana

Q16 The geographic Grid for Trypanosomes in Africa is

- a) Latitude  $10^{\circ}$  North to  $15^{\circ}$  south
- b) Latitude  $20^{\circ}$  North to  $40^{\circ}$  South
- c) Latitude  $15^{\circ}$  North to  $30^{\circ}$  south
- d) Latitude  $15^{\circ}$  North to  $20^{\circ}$  south

Q17 The larvae of Tsetse fly can be diagnosed using the following features:

- a) Polyneutic lobes and 4 segments of the body
- b) Polyneutic lobes and 8 segments of the body
- c) Two polyneutic lobes and two segments of the body
- d) Four polyneutic lobes and 12 segments of the body

Q18 Chrysops are vectors of

- a) *Wuchereria bancrofti*
- b) *Brugia malayi*
- c) Loa loa
- d) *Dipeterlonema streptocerca*

Q19 The vectors which transmits intestinal flukes

- a) Crabs
- b) Frogs
- c) Ants
- d) Mosquitoes

Q20 Cyclops is a vector of

- a) *Strongyloides stercoralis*
- b) Tape worm
- c) Broad fish tape worm
- d) *Taenia solium*

Q21 Biomphalaria pfeifferi is a vector of

- a) Fasciola hepatica
- b) Fasciolopsis buski
- c) Schistosoma m ansoni
- d) Schistosoma japonicum

Q22 Schistosoma japonicum is transmitted by

- a) Bulinus globosus
- b) Bulinus tranatus
- c) Lymnea stagnalis
- d) Onchomelania

Q23 Frogs can serve as accidental vectors of

- a) Spirometra sperganum
- b) Diphylobothrium latum
- c) Trichinella spiralis
- d) Dracunculus medinensis

Q24 Predaceous larvae which can contribute as biological control agent is that of:

- a) Simulium naevai
- b) Haemagogus
- c) Toxorynchite
- d) Aedes egypti

Q25 Culicine mosquitoes which do not transmit pathogens include

- a) Aedes egypti
- b) Bironella
- c) Asian tiger
- d) Culex fatigans

Q26 A mosquito which has sclerotized siphon is

- a) Aedes egypti
- b) Mansonia
- c) Anopheles
- d) Sabethes

Q27 The ecology of sand fly in Kenya requires

- a) Savana-antihills
- b) Forest mountains
- c) Thickets and savanna dry land
- d) First flowing rivers

Q28 The following features are diagnostic for female Anopheles mosquito

- a) Non plumose antennae and palps as long as proboscis
- b) Non plumose antennae and palps are clubbed
- c) Non plumose antennae and palps are short
- d) Non plumose antennae and palps are as long as the proboscis

Q29 The Mosquitoe eggs which are laid singly and do not have floats are those of:

- a) Culex fatigans
- b) Anopheles gambiae
- c) Aedes aegypti
- d) Siphonophora

Q30 The safe control methods of mature stage of mosquitoes are:

- a) Use of insecticides
- b) Use of prethroids
- c) Use of surface water modulation and draining of submerged vegetation.
- d) Use of mosquito net

Q31 Fleas are vectors of:

- a) Typhus penetrant
- b) Nematodes
- c) Plague
- d) West Nile virus

Q32 The genus of mosquito larvae which lies parallel to water surface is:

- a) Sabethes
- b) Mansonia
- c) Chagasia
- d) Anopheles

Q33 Molluscs are commonly known to transmit :

- a) Malaria
- b) Flukes
- c) Cestodes
- d) Nematodes

Q34 Culicine mosquitoes breath through

- a) Cuticles
- b) Nose
- c) Hair brushes
- d) Siphone

Q35 Salivary glands of Anopheles mosquitoes have:

- a) One lob
- b) Four lobes
- c) Three lobes
- d) Three lobes with a center shot lob

Q36 A tsetse fly can be identified using the following features:

- a) Bushy antennae
- b) A wing showing a hatchet cell
- c) Large compound eyes
- d) Cephalothorax

Q37 Brugia timori is transmitted by

- a) Tsetse fly
- b) Tumbu fly
- c) House fly
- d) Mosquitoes

Q38 The vector for trichinella spiralis is

- a) Cattle
- b) Cats
- c) Pigs
- d) Mosquitoes

Q39 Fish can be a vector of

- a) Taenia asiatica
- b) Taenia solium
- c) Taenia saginata
- d) Ascaris lumbricoides

Q40 The best method to prevent mosquito bite is

- a) Mosquito net
- b) Mosquito proof window screen
- c) Modulation of breeding places
- d) Integrated method of mosquito control

## Section B

Q31 Discuss the biology of

- a) Mosquito eggs-----5 marks
- b) Mosquito larvae-----5 marks
- c) Female mosquito-----5 marks
- d) Tsetse fly larvae-----5 marks

Q32 Describe the physical features of the following

- a) Onchomelania-----5 mrks
- b) Biomphalaria-----5 marks
- c) Bulinus globosus-----5 marks
- d) Tsetse fly-----5 marks

Q33 Describe the life cycle of Anopheles gambiae---20 marks