



**NAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY**

**Faculty of Health, Natural
Resources and Applied
Sciences**

School of Health Sciences

Department of Preventative
Health Sciences

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QUALIFICATIONS: BACHELOR OF ENVIRONMENTAL HEALTH SCIENCES, BACHELOR OF SCIENCE IN HEALTH INFORMATION SYSTEMS MANAGEMENT, BACHELOR OF HUMAN NUTRITION	
QUALIFICATION CODE: 08BOHS, 07BHS, 08BOHN	LEVEL: 6
COURSE NAME: EPIDEMIOLOGY 2B	COURSE CODE: EPD 612S
DATE: NOVEMBER 2023	SESSION: 1
DURATION: 3 hours	MARKS: 100

FIRST OPPORTUNITY EXAMINATION QUESTION PAPER

EXAMINER(S) DR LARAI AKU-AKAI

MODERATOR: DR ROSWITHA MAHALIE

INSTRUCTIONS

1. Answer ALL the questions.
2. Write clearly and neatly in the spaces provided.

PERMISSIBLE MATERIALS

1. Non-programmable scientific calculator

ATTACHEMENTS

1. None

THIS QUESTION PAPER CONSISTS OF 6 PAGES (Including this front page)



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Question 1 (10 marks)

Select the most appropriate answer from the options provided.

- 1.1 The following communicable conditions can lead to non-communicable diseases **except:**
- a) Schistosomiasis
 - b) Tuberculosis
 - c) Genital warts
 - d) Hepatitis A
- (1)
- 1.2 Diseases which can be transmitted by skin penetration include all the following **except:**
- a) Amoebiasis
 - b) Hookworm
 - c) Schistosomiasis
 - d) Hepatitis B
- (1)
- 1.3 A nosocomial infection comes from:
- a) Insects
 - b) Rodents
 - c) Tropical regions
 - d) Medical facilities
- (1)
- 1.4 The following diseases are vaccine preventable **except:**
- a) Diphtheria
 - b) Ascariasis
 - c) Pertussis
 - d) Tuberculosis
- (1)
- 1.5 Diseases spread worldwide are known as:
- a) Pandemics
 - b) Epidemics
 - c) Endemics
 - d) Sporadic
- (1)
- 1.6 A form of influenza that occurred globally because of contact with birds, their products and waste:
- a) Covid-19
 - b) SARS
 - c) MERS
 - d) Avian flu
- (1)

- 1.7 To prevent Tuberculosis, which of the following vaccines should be given to infants?
 a) BCG
 b) DPT
 c) OPV
 d) IPV (1)
- 1.8 The main route of transmission for Hepatitis E is:
 a) By injection and blood transfusion
 b) By faeco-oral
 c) By droplets in the air
 d) By saliva (1)
- 1.9 Which of the following factors play a key role in likelihood of infectious disease acquisition?
 a) Genetic profile
 b) Human behaviour
 c) Environmental conditions
 d) All of the above (1)
- 1.10 The following are modes of transmission which are appropriate for the spread of communicable diseases **except**:
 a) Faeco-oral - Hepatitis B
 b) Fomite borne – Chickenpox
 c) Direct – HIV
 d) Droplet inhalation - Tuberculosis (1)

Question 2 (10 marks)

Indicate the causative agent and type of organism responsible for the following conditions:

	Disease condition	Name of organism (1 mark each)	Type of organism (bacteria, virus, protozoan, etc) (1 mark each)
2.1	Scabies		
2.2	Bacillary Dysentery		
2.3	Anthrax		
2.4	Malaria		
2.5	Cholera		

Question 3 (10 marks)

Match the terms in Column A with the description in Column B (1 mark each):

	Column A		Column B
3.1	Multi-disciplinary approach	A	Snails
3.2	Organism acquired from health care setting	B	Reduvid bugs
3.3	Transmitted by blackfly in riverine areas	C	Droplet transmission
3.4	Organism passes from mother to unborn child	D	One Health
3.5	Breeds in cracks in walls of houses and transmit parasite for Chagas disease	E	Maculo-papular
3.6	Cause biting nuisance and mild anaemia	F	Inoculation
3.7	Breeds in rivers and vector for parasitic agent	G	Bedbug
3.8	Organism introduced into skin or mucosal membranes	H	Transplacental
3.9	Fluid-filled lesion on the skin	I	Nosocomial
3.10	Organisms carried in nasopharyngeal secretions	J	Onchocerciasis
		K	Vesicle

Question 4 (10 marks)

Define/explain the following terminology used in epidemiology:

- 4.1 Incubation period (2)
- 4.2 Endemic (2)
- 4.3 Incidence rate (2)
- 4.4 Host (2)
- 4.5 Pathogen (2)

Question 5 (25 marks)

- 5.1 A boy from a rural community was bitten by a dog on his way home from school.
 - 5.1.1 What disease is the boy at risk of acquiring and how is the disease agent transmitted? (2)
 - 5.1.2 What should be done for the boy to ensure that he does not develop the disease? (2)
 - 5.1.3 As a health professional the headman asks you for advise on how the disease can be prevented in the village. Mention **one (1)** important measure that will prevent the disease. (1)
- 5.2 A woman in her 3rd month of pregnancy discovers that one of her friend's child, whom she often sees has Rubella. Should she be concerned about herself or her unborn child and why? (2)

- 5.3 A newborn baby was born at home and the birth was attended by the grandmother in the mother's room. After a few weeks the baby is unable to open her mouth and suck and is making unusual facial expressions. He is very stiff and his muscles seem to go into spasms whenever he hears a loud noise.
- 5.3.1 What disease do you think he has? (1)
- 5.3.2 What could have been done during and after his birth to prevent this from happening? (2)
- 5.3.3 This disease is earmarked for elimination. Explain the strategy employed to eliminate this disease. (3)
- 5.4 A lady who has only lived in Windhoek all her life, travels to Oshakati during the summer for a work event which involved outdoor exhibitions till late at night. After returning to Windhoek, she begins to feel ill, and eventually has a high fever with chills and shivering, severe headache, joint pains, nausea and vomiting and abdominal discomfort. She has never experienced this type of illness before.
- 5.4.1 What would be your first suspicion of what is wrong with her? How could she have acquired the condition? (2)
- 5.4.2 Outline the names of the organism and vector involved in causation of this disease. (2)
- 5.4.3 What advise would you have given her to prevent the disease before she travelled for the event? (3)
- 5.5 A teenage boy presents with a swelling at the angle of his jaw that is very painful, limiting his ability to open his mouth and chew.
- 5.5.1 Name the most likely condition? (1)
- 5.5.2 Mention **two (2)** means through which this disease can be transmitted. (2)
- 5.5.3 What is one of the main long-term complications of this condition specifically among males and why? (2)

Question 6 (35 marks)

- 6.1. You were invited as a health professional to visit a rural community whose main source of income is small scale animal farming. They mainly rear goats, sheep, cattle and pigs. The village has a large river and farmers often bring their herds to drink from the river and graze on the green pastures around the riverbanks. Being a rural setting, most homes use pit latrines or practice open defaecation. The river is the main source of drinking water for the community, and young boys in the village enjoy swimming in the river.

6.1.1 List **five (5)** diseases that members of this village are at risk of acquiring, with the name of the agent and its means of transmission.

Write your answer in the answer booklet in the form of a table as below:

	Disease	Organism	Means of transmission
1			
2			

(1 mark for each correct answer) (15)

6.1.2 Discuss **five (5)** risk factors of disease transmission in the scenario discussed above. (5)

6.1.3 Discuss in detail the prevention and control of any **one (1)** of the diseases listed above. (5)

6.2 Discuss the role of Port Health in minimising international spread of disease. (10)

Good luck!!!