



## MASENO UNIVERSITY

### UNIVERSITY EXAMINATION 2015/2016

SCHOOL OF PUBLIC HEALTH AND COMMUNITY DEVELOPMENT  
FIRST, SECOND, THIRD AND FOURTH YEAR SECOND SEMESTER EXAMINATION FOR ALL  
UNDERGRADUATE DEGREES

PHT: 112: HIV AND AIDS DETERMINANTS, PREVENTION AND MANAGEMENT

CANDIDATES REGISTRATION NUMBER: \_\_\_\_\_

SCHOOL / FACULTY OF: \_\_\_\_\_

DEGREE FOR WHICH CANDIDATE IS BEING EXAMINED:  
\_\_\_\_\_

YEAR OF STUDY: \_\_\_\_\_

DATE: 20<sup>TH</sup> JANUARY, 2016

TIME: 2:00PM – 4:00PM

#### GENERAL INSTRUCTIONS

1. Write your University Registration Number on every page of the question paper.
2. Do not write your name on any papers you use.
3. The Questions are set out in Three (3) Sections A, B and C
4. Answer all Questions in each section in the question paper
5. Section A has Thirty (30) Multiple Choice Questions (MCQs) (30 Marks)
6. Section B has Thirty four (34) Short Answer Questions (SAQs) (25 Marks)
7. Section C has Three (3) Case Application Questions (15 Marks)
8. Read very carefully the additional instructions preceding each Section
9. Answer all questions on the question paper as per instructions preceding each section



**Section A: MCQs: Answer all Questions**

**(30 Marks)**

Circle the most appropriate option (Each correct answer is 1 mark)

1. BCC is an integral component of comprehensive HIV/AIDS prevention, care and support program. It has a number of different but interrelated roles. Which one is not?
  - a. Stimulate community reaction
  - b. advocate
  - c. Create a demand for services
  - d. Improve skills and sense of self-efficacy
  - e. Promote change of attitude
2. Good Communication involves many factors for example understanding how people relate to each other. One of the following combinations of points relates purely to "information giving" as opposed to "information sharing" Which one is it?
  - a. Participatory learning/ Formal teaching
  - b. Using many forms of visual media/ Depends on posters
  - c. Depends on lectures and talks/ Professional demonstrate knowhow
  - d. Telling learners what they should do/ Making ideas attractive
  - e. Partnership/ Encourage dialogue
3. For effective information, Education and Communication (IEC) it's important to carefully select materials for your campaign. Sufficient exposure to these materials will reinforce the following, except?
  - a. Counseling and testing
  - b. . Women's and human rights
  - c. Pro-cultural stigma messages
  - d. HIV prevention
  - e. Basic facts about HIV and Sexually transmitted Infections (STI)
4. Which one of the following objectives is not a guiding principle of BCC?
  - a. Stakeholders need to be involved from the design stage
  - b. Pre-testing is essential for developing effective BCC materials
  - c. BCC strategies should be positive
  - d. PLHA should be involved in BCC planning and implementation
  - e. Monitoring and Evaluation should be planned at a later stage but within the program life-cycle
5. Identify one area listed below that is not usually a key target to be considered for reinforcement when pre-selecting materials to be used during the HIV/AIDS campaign program.
  - a. Anti-stigma messages
  - b. Identifying the road to good health
  - c. HIV prevention
  - d. Women's and human rights
  - e. Counseling and testing
6. Stigma is a mark of shame or discredit on a person or group. It can manifest itself in a number of ways from ignoring the needs of the affected to psychologically or physically harming those who are stigmatized. The following are the most targeted by stigma except?
  - a. HIV/AIDS related health workers
  - b. Men who have sex with men (MSM)
  - c. Sex workers (SWs)
  - d. Intravenous drug users (IDUs)
  - e. People living with HIV & AIDS (PLHA)



7. Health promotion and health education includes the following except?
- Strengthening community action
  - Strengthening HIV/AIDS testing
  - Reorienting health services
  - Creating supportive environments
  - Building supportive environments
8. Various models have been developed to help explain the process of communication. The Convergence Model recognizes that communication involves dialogue and the exchange of information and ideas to arrive at a shared understanding. The model asserts that the process of communication consists of the following activities except?
- Adapting feelings
  - Listening
  - Expressing ideas
  - Understanding
  - Reflection
9. The following are guiding principles of behaviour change and communication. Which one is NOT?
- Target population should participate in all phases of BCC development
  - BCC assessments must be conducted to improve understanding of the needs of the target group.
  - Considering that pre-testing is usually expensive it should be introduced towards the end of the implementation stage.
  - Planning for monitoring and evaluation should be part of the design
  - Having a variety of linked communication channels is more effective than relying on one specific one.
10. Participatory learning is one of the ways that constitutes information sharing. Which one is not?
- Partnership
  - Time creation
  - Legislation of policies
  - Learning involvement
  - Encouraging dialogue
11. Which one of the following best describes an opportunistic infection?
- Are not life threatening to people with HIV/AIDS
  - Develop the same in healthy people as in people with HIV/AIDS
  - Are infections that affect people who are malnourished
  - Benefit from a vulnerable immune system
  - Are favorable side effects that help fight HIV/AIDS infections
12. Which of the following is NOT a direct impact of HIV/AIDS on the health of households:
- Reduced ability of care-givers to work
  - Rise in medical expenses
  - Reduced food production
  - Rise in the number of dependents
  - Loss of income



13. The following are some roles of faith-based organizations in the response towards HIV & AIDS. Which one is not?
- Psycho-social support
  - Treatment
  - Economic initiatives
  - Excommunication
  - Management of stigma and discrimination
14. The following constitute culture according to definition by UNESCO. Which one DOES NOT?
- Perceptions of life and death
  - Sexual norms and practices
  - Power and gender relations
  - Formal education
  - Languages and means of communication
15. Which one of the following is NOT a core principle of HIV testing and counseling?
- Pre test counseling
  - Confidentially
  - Coercion
  - Consent
  - Post test counseling
16. 'HIV & AIDS is more prevalent in cities and along transport routes'. In line with this statement which one of the following alternatives is NOT an emerging cultural orientation?
- Breadwinners live alone in cities
  - Family members work in different cities
  - Many women and girls flock to cities to look for jobs which are not there
  - Cultural practices are increasingly being adopted in cities
  - There is a sharp reduction in use of cultural practices in cities
17. Which of the following is a major group of human cells that HIV kills?
- CD8+
  - CD4+
  - CD11+
  - CD36
  - CD3
18. The best treatment for HIV infection is:
- Reverse transcriptase inhibitors
  - Integrase inhibitors
  - Protease inhibitors
  - Enzyme inhibitors
  - Highly active antiretroviral therapy (HAART)
19. Which of the following test will be used to indicate how rapidly HIV is progressing in the body?
- CD4+ cell count test
  - Viral load test
  - HIV antibody test
  - Leukocytes count test
  - Opportunistic infections test



20. A 'window period' is \_\_\_\_\_?
- a time the person has to wait before s/he takes an HIV test
  - a time when an HIV test result is still negative
  - a time for the virus to become virulent
  - a time when the person becomes exposed to HIV
  - a time for HIV antibody synthesis and seroconversion
21. The main goal of HIV drugs is to suppress HIV viral load to 'undetectable level'. This means that \_\_\_\_\_?
- HIV RNA is below the detection limit of the test
  - HIV RNA is significantly low
  - HIV is absent in blood
  - HIV DNA is below the detection limit of the test
  - HIV DNA is significantly low
22. Which one of the following is the BEST reason why one would perform an HIV test?
- When one has had unsafe sex
  - When one suspects her/his sex partner of unfaithfulness
  - When one wants to know their hiv status in order to take precautions
  - When one has recurrent infections
  - When one is experiencing drastic weight loss
23. HIV infection is often difficult to diagnose in very young infants! Why?
- The 'window period' is very narrow in infants
  - Infants harbor maternal antibodies which do not reflect infants' hiv status
  - It is unfair and hard to draw adequate test samples from infants
  - Infants have undetectable levels of hiv antibodies
  - Laboratory ethics and law does not permit it
24. In a good laboratory practice, what would an HIV reactive test indicate?
- That someone has AIDS
  - That HIV antibodies are present in blood
  - That someone is positive for HIV
  - That HIV antibodies may increase in blood
  - That someone needs to take a confirmatory test for HIV
25. All but one of the following are the tenets of Voluntary Medical Male Circumcision (VMMC).
- Ensures safety
  - Ensures non-discrimination in access to services
  - Ensures the use of ARVs
  - Ensuring voluntary informed consent
  - Respecting confidentiality



26. Women living with HIV and AIDS face the following forms of stigma and discrimination EXCEPT
- Blamed for transmitting HIV to deceased husband
  - Forced to undergo widow inheritance
  - Rejected and sent back to maternal homes
  - Denied land
  - Children lack school fees
27. The following are facts about HIV and AIDS. Which is the myth?
- Mosquito bites can cause malaria
  - Anyone can contract HIV or AIDS
  - Antiretroviral drugs are improving and extending the lives of many HIV-infected people
  - If I'm receiving treatment, I can't spread the HIV virus
  - There is no cure for HIV or AIDS
28. Why is Female Genital Mutilation a major concern in Kenya today?
- It poses risks to babies' health
  - It is a sign of immaturity
  - It leads to the spread of HIV and AIDS
  - It is unhygienic
  - It inhibits sex
29. Which of these is not a challenge faced by children affected by HIV and AIDS?
- Child trafficking
  - Being forced to participate in child labour to support family
  - Psychological trauma following death of parents
  - Lack of income pushing them to prostitution
  - Being separated from family to go and stay with other relatives
30. Approaches to HIV Testing and Counseling (HTC) in Kenya have shifted over the years to broad scope types that are currently in place. Which of the following combination of HTC approaches are new in Kenya?
- Client initiated HTC, provider initiated HTC and Diagnostic HIV testing
  - Self testing for HIV, Diagnostic HIV testing and Required HIV testing
  - Required HIV testing, Door to door testing and Provider initiated HTC
  - HIV testing campaigns, Door to door testing and Self testing for HIV
  - Door to door testing, Provider initiated HTC and Client initiated VCT



**SECTION B: SAQs: Answer all questions**

**(25 Marks)**

**Part 1: Mark as true (T) or false (F) at the end of each statement**

**NB: Each correct answer will earn you ½ mark**

1. Plasma viral load is the strongest predictor of HIV sexual transmission
2. Negative ELISA and western blot test results do not rule out HIV infection
3. The window period is the time between HIV infection and development of AIDS
4. Sexual contact between male and female accounts for >90% of HIV transmissions in Kenya
5. Male circumcision decreases the risk of female-to-male sexual transmission of HIV by 50% to 60%.
6. The number of B cells serve as an indicator of the status of the immune system as a function of advanced AIDS infection
7. After a retrovirus enters the host cell, the virus's own reverse transcriptase uses the viral DNA as a template to make a double stranded DNA molecule
8. Diagnostic techniques that measure a fall in plasma viral load and increase in CD4+ count can be used to indicate the effectiveness of antiretroviral therapy
9. Recurrent respiratory tract infections such as sinusitis, bronchitis, otitis media and pharyngitis are associated with clinical stage three of HIV and AIDS
10. Transmission of HIV is facilitated in the presence of other infectious diseases, especially when they are not associated with ulcerative lesions of the genital mucosa.

**Part 2: Risk Level: Write the correct level of risk for each behavior at the end of the statement.**

**NB: Each correct answer will earn you ½ mark**

Decide and indicate whether each of the behaviours or characteristics listed below is **high risk, low risk or no risk** for getting HIV.

1. Multiple mosquito bites
2. Any opportunity for exchange of body fluids
3. Breast feeding
4. Occupational exposure
5. Casual contact
6. Having sex under the influence of alcohol or drugs
7. Having fewer copies of a gene that helps to fight HIV
8. Having another sexually transmitted disease (STD), such as herpes, chlamydia, syphilis, or gonorrhoea



**Part 3: Cross Matching. Match the items in List A with the statements in List B**

**INSTRUCTIONS**

- i. This section consists of two Lists of items (List A and B).
- ii. The items in List A (Item option) match with specific items in List B (Statement).
- iii. Identify item in List A that correctly matches with a particular statement in List B and enter the answer in List C. **See example below**
- iv. Each option can be used more once only.

**Example:**

LIST A		LIST B		LIST C (ANSWER)
A	PHT112	i.	Platform for offering e-based courses	B
B	eCampus	ii.	Accessible anytime anywhere	C
C	Online module	iii.	Mandatory for all undergraduate students	A

1. Match the items in List A to those in List B (Each option can be used once only)

LIST A		LIST B		LIST C (ANSWER)
A	P24 antigen	i.	HIV-related neurological complication (G)	
B	Thrush	ii.	Effectiveness of antiretroviral therapy (ART)	
C	A fall in the plasma viral load and an increase in the CD4 count.	iii.	Associated with greatest degree of immunosuppression	
D	Acute HIV infection	iv.	An immune marker in the window period of HIV infection	
E	Primary prophylaxis	v.	Associated with process where information on RNA is transcribed into DNA in the host cell	
F	gp120 and gp41	vi.	Burst HIV replication with a decline in CD4 cell count	
G	Toxoplasmosis	vii.	Associated with primary infection with HIV	
H	Cryptococcal meningitis	viii.	These proteins bind to CD4+ cell receptors	
I	P17 antigen	ix.	A confirmatory diagnostic testing is necessary	
J	Retrovirus	x.	Medicines to prevent opportunistic infection	
K	Viral transmission			
L	Influenza like signs and symptoms			
M	Lentivirus			





2. Match the items in List A to those in List B (Each option can be used once only)

	LIST A		LIST B	LIST C (ANSWER)
A	Negative ELISA test result	i.	Resolve indeterminate results and diagnosis of HIV	
B	Blood transfusion	ii.	Associated with pre-test and post counseling	
C	Guideline for HIV Testing	iii.	Does not necessarily mean that the patient is infected with HIV	
D	Western blot	iv.	Does not rule out HIV infection	
E	Asymptomatic patient	v.	HIV and AIDS epidemiological surveillance	
F	Positive ELISA test result	vi.	Mandatory testing	
G	Anonymous HIV test			

**SECTION C: Case presentations: Answer all questions (15 Marks)**

3. Home and Community Based Care (HCBC) implementation strategies need concerted action to strengthen the administrative and healthcare levels from the national, regional, provincial, district and division levels, to the community, which will ensure a strong and sustainable system that supports the individual and affected family. Indicate against the strategy which of the following strategies is done by which level of administrative unit.(National, Provincial, District and Community)
  - a) Provide logistics for delivery of HCBC services
  - b) Facilitate relevant training for staff
  - c) Coordinate HCBC activities and putting monitoring systems in place
  - d) Effectively implement, policies, guidelines and strategies
  
4. When the Maseno university AIDS Control unit was launched in the year 2005, it elicited a lot of excitement among the students, staff and neighbouring community. Within a period of one semester, 5,000 students voluntarily went for HIV Testing and Counseling (HTC), 1,050 students tested upon request by the ACU counselors, whereas 500 were tested when they presented with HIV-related signs and symptoms. In order to increase uptake of HTC services to the neighbouring communities around the University, Maseno university ACU staff offered HTC services on Wednesday of every at different sites in the community. In addition, nongovernmental organizations (NGOs), faith-based organizations (FBOs), community-based organizations (CBOs) collaborated also to set up extra HTC sites within the same community.

NB: Use the above case scenario to answer the questions below.

- a) What is the name of HIV Testing Counseling (HTC) whereby an individual, couple, or group actively seeks out HIV testing and counseling at a site where these services are provided and/or accessible
- b) What is the name of HIV Test that is initiated by ACU counselor or health care regardless of the client's reason for attending the facility
- c) What is the name of HIV test that targets patients with HIV-related signs and symptoms
- d) What is the name HTC centres or facilities within the community that are not attached to other specific health services
- e) What type of HTC refers to services offered outside of a fixed site, such as mobile or workplace HTC



5. A first year female student was walking to her hostel in Tsunami at 11.00 PM where a group of three boys took advantage of the prevailing blackout and raped her. The next morning, she went to Maseno University clinic where she was given medication to reduce her risk of contracting HIV infection. After three months had elapsed, she went back to the same health facility to conduct HIV test. She was taken through two counseling sessions, the first one before the test and the second one after the test. During testing, the counselor used two different types of HIV rapid diagnostic kits namely A and B. Rapid Test A was reactive and test B non-reactive, which compelled the counselor to use the third rapid diagnostic kit C to determine her true HIV status. On her way out, she met her high school classmate who told her she was diagnosed to be HIV positive five years ago. The classmate had frequent attacks of infection X and Y that took advantage of her failing immune system. Infection X was a systemic disease that presented with cutaneous lesions on the skin while infection Y manifested in form of red, raised, tender vesicles or lesions which occurred on the vulva and in the vagina. She was in the clinic to collect her monthly drugs.
- What is the name of treatment she was given to reduce her chances of contracting HIV infection ( 1 Mark)
  - What is the likely name of rapid test Kit A? ( 1 mark)
  - What is the name of the second counseling session? (1 mark)
  - Suggest the WHO clinical stage of Mary's high classmate ( 1 mark)
  - What kind of drugs had Mary's high school classmate come to collect?
  - What is the likely name of infection X

