



# **MASENO UNIVERSITY**

## **UNIVERSITY EXAMINATIONS 2016/2017**

### **SECOND YEAR SECOND SEMESTER EXAMINATIONS FOR THE DEGREE OF MASTER OF PUBLIC HEALTH IN EPIDEMIOLOGY AND POPULATION HEALTH**

#### **CITY CAMPUS**

#### **PHM 823: MANAGEMENT OF HEALTH INFORMATION SYSTEMS & SERVICES**

Date: 3<sup>rd</sup> July 2017

Time: 9.00 - 12.00pm

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#### **INSTRUCTIONS:**

- Answer ALL Questions in section A and B.

SECTION A: Answer all

1. Information is

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- A. Data
  - B. Processed Data
  - C. Manipulated input
  - D. Computer output

2. Tactical information is needed for

- A. Day to day operations
- B. Meet government requirements
- C. Long range planning
- D. Short range planning

3. Operational information is required by
- A. Middle managers
  - B. Line managers
  - C. Top managers
  - D. All workers
4. A computer based information system is needed because
- (i) The size of organization have become large and data is massive
  - (ii) Timely decisions are to be taken based on available data
  - (iii) Computers are available
  - (iv) Difficult to get clerks to process data
- A. (ii) and (iii)
  - B. (i) and (ii)
  - C. (i) and (iv)
  - D. (ii) and (iv)
5. Decision support systems are used for
- A. Management decision making
  - B. Providing tactical information to management
  - C. Providing strategic information to management
  - D. Better operation of an organization
6. Which of the following is not a class of information system applications?
- A. Database management system
  - B. Decision support system
  - C. Expert system
  - D. Management information system
  - E. Office automation system
7. Management information systems (MIS)

- A. create and share documents that support day-today office activities
  - B. process business transactions (e.g., time cards, payments, orders, etc.)
  - C. capture and reproduce the knowledge of an expert problem solver
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- D. use the transaction data to produce information needed by managers to run the business
  - E. none of the above

8. In health care, the organization is:
- A. the hospital,
  - B. the physician practice,
  - C. the integrated delivery system,
  - D. the nursing home, or the rural clinic or health facility.
  - E. All the above
9. \_\_\_\_\_ are interactive computer programs designed to assist physicians and other health professionals with decision making tasks?
- A. electronic health records
  - B. clinical decision support systems
  - C. computerized provider order entry
  - D. telemedicine
10. Interoperable health IT will improve individual patient care, but it will also bring many public health benefits including early detection of infectious disease outbreaks around
- A. True
  - B. False
  - C. Does not exist
  - D. None of the above

SECTION B Answer All

1. Briefly explain a data dictionary (3mks)
2. \_\_\_\_\_ is a property referring to the ability of diverse systems and organizations to work together. (2mks)
3. Describe the benefits of Health Information Exchanges. (5mks)
4. Discuss how electronic health records contribute to reducing medical errors? (5mks)
5. What role do health information management professionals play in the delivery of health care in the health sector? (5mks)

SECTION C: Answer any TWO questions

Question 1

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Mary Atieno Story

Mary Atieno is a 21 year old married woman living in a village within Ahero in Kisumu county. Four months ago she gave birth to her first baby at the sub county Health facility in Ahero. The family was very happy and named him "Ker" – the King.

At the time of her discharge from the Health facility, the nurse advised her to bring her child for BCG vaccination the following week. Mary forgot, but a few days ago she was reminded by Margaret, the Health Extension Worker in her village. Mary thought it's a good time she goes to the health center so that she can also consult the doctor on her pain in the abdomen which she has been feeling since a few days.

Today, when she was on her way to the health center with her son, she also met Omollo Jorim. Omollo was from the same village and was going to the clinic as well. Mary didn't ask him why he was heading to the Health Center. Omollo has been suffering for many months; people say many things about him, but Mary thought Omollo needs help. Mary offered Omollo to walk and go together to the health center. Mary saw a small card popping out of Omollo's pocket and knew that Omollo has been to the health center before. She recalled that she was also given a similar looking card when she went to the health center to give birth to Ker, but she lost it. She was afraid that she will have difficulty in the health center.

At the health center, they waited for their turn at the registration booth. When it was Mary's turn, she told the registration officer about their health care need (son and herself). The woman at the registration asked if she has brought the little card she was given last time she was at the health center. Mary apologized. The woman didn't look very happy, but asked her name, husband's name, village and date of last visit to the facility. Then she looked through a smartly kept small stack of cards (tracer cards) and brought out a card which had her name etc.

on it. The woman wrote another card and gave it to Mary, but warned her that she must keep this card safely and bring it every time she visits the health center. She also gave Mary a similar card for Ker. An assistant went and brought out Mary's folder from the shelves. In the meanwhile, the woman at the registration prepared another folder with Ker's name and other information.

Mary was then taken to a room where a female doctor greeted her and asked about her complaints. She examined her and wrote on the card and summary sheet that were inside her folder. The doctor reassured Mary and told her probably her menstruation is coming back and gave her a prescription. She gave Mary another small card and advised her to come back on the date written on the small card she has given her.

Then she went to another room where Ker was vaccinated. Here also the nurse wrote something on a summary sheet inside Ker's folder and gave Mary a small card advising her to bring Ker after a month.

#### Questions

- A. What card did Mary lose which was given to her at the time of discharge after delivery?  
(2mks)
- B. By clearly defining their roles of each card, how many cards did Mary have at the end of the service (cards for both Mary and Ker) (4mks)
- C. List the health system issues raised in the story and outline how you would improve this system without migrating it to electronic records system (14mks)

#### Question 2

You have been hired as the HMIS technical advisor in a multi-specialty hospital

A. State the need for information system in a multi-specialty hospital (5mks)

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B. List any five Desired Capabilities of your proposed Information Systems to the hospital (5mks)

C. Briefly discuss the need and importance of health care information standards and data exchange in a multi-specialty hospital with multiple service specific applications (10mks)

Question 3

A. Write a briefing of historical evolution of health care information systems clearly defining the milestone of development for HIS (10mks)

B. List and explain any four purposes of patient records in health care system (8mks)

C. Define a client discharge summary (2mks)