

SECTION 1: MULTIPLE CHOICE QUESTIONS (50 MINUTES)

INSTRUCTIONS: Circle or Tick the correct answer.

1. Which one of the following vectors of malaria is most amenable to control? →

- A. Endophagic, Endophilic, Zoophilic +
  - B. Endophagic, Endophilic, Anthrophilic ✓ ~~X~~
  - C. Endophagic, Exophilic, Zoophilic +
  - D. Exophagic, Endophilic, Anthrophilic
  - E. Endophagic, Exophilic, Anthrophilic
- slides or humans*

2. All the following are true of transmission and prevention of diarrheal diseases except

- A. Water maybe a vehicle
- B. Food maybe a vehicle
- C. Flies may play a part
- D. Wearing shoes is a factor
- E. Washing hands is a factor

3. All the following are true of transmission and prevention of helminthic infections except

- A. Adults are the infective forms *larval forms*
- B. Wearing shoes ✓
- C. Fortification of foodstuffs ✓
- D. Indiscriminate defecation ✓
- E. Penetration of intact skin ✓

4. Zoonosis are all of the following except

- A. Usually diseases of humans
- B. Diseases of animals ✓
- C. Can be occupational hazards *eg anthrax* ✓
- D. Effective vaccination exists for some *yellow fever* ✓
- E. Quarantine measures are used for some ✓

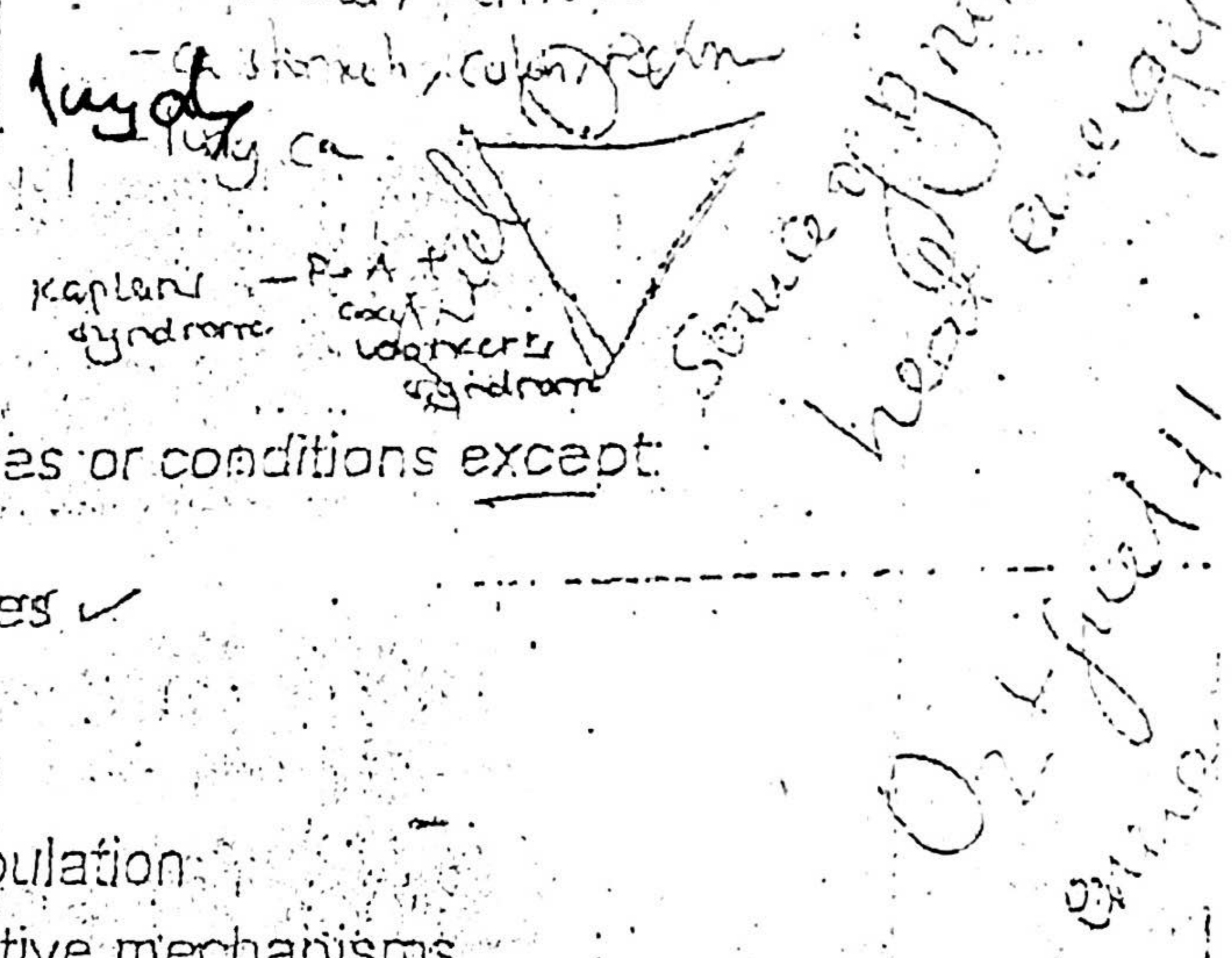
*ingest of vertebrates other than human transmitted to human under certain circumstances*

5. Which one of the following risk factors is unlikely to cause occupational dermatoses?

- A. Chemical agents ✓
- B. Mechanical agents ✓
- C. Plant agents ✓
- D. Ultraviolet screening agents
- E. Physical agents

6. Well as that, thickening of the lung is known as: a) Asbestosis (white lung dx)  
 c) silicosis - alveolar - diffuse, characteristic of coal miners  
 - plural / pentonal - pneumoconiosis  
 - a) silicosis, carbon pneumoconiosis

- A. Black pneumoconiosis
- B. Mechanical agents
- C. Coal workers pneumoconiosis - **Black lung**
- D. Black hyper sensitivity pneumonitis
- E. Bagassosis - sugarcane dust
- F. Byssinosis - cotton, hemp, sisal dust



7. All the following characterize occupational diseases or conditions except:

- A. Most are associated with chronic exposures ✓
- B. Most of them have latent period ✓
- C. Many of them are untreatable ✓
- D. Are more common among the working population
- E. Some workers develop very effective adaptive mechanisms

A R E C

8. The hierarchy of control of hazards in work places is as follows:

- A. Substitution, ventilation, elimination, enclosure, personal protective equipment
- B. Elimination, substitution, enclosure, ventilation, personal protective equipment
- C. Enclosure, isolation, ventilation, elimination, personal protective
- D. Personal protective equipment, elimination, substitution, enclosure, ventilation
- E. Enclosure, ventilation, personal protective equipment, elimination, substitution

9. Which of the following chemical formula results in formation or production of fire?

- A. Fuel + heat energy + oxygen = Energy + heat energy + oxides ✓
- B. Heat energy + fuel + oxygen = Energy oxides + heat energy
- C. Fuel + oxygen + heat energy = Heat energy + energy oxides
- D. Oxygen + fuel + heat energy = Energy oxides + heat energy
- E. Energy oxides + heat Energy = Oxygen + fuel + heat energy

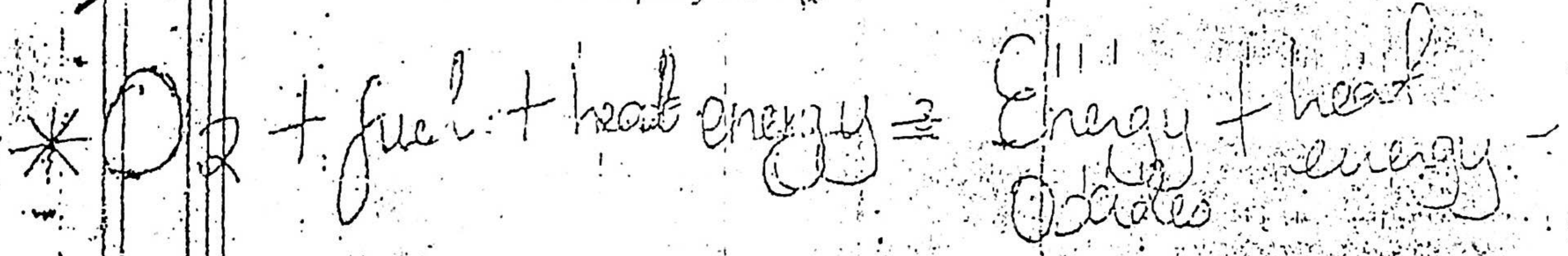
10. Which of the following is an example of water dispersed disease?

- A. Onchocerciasis - **water related**
- B. Visceral leishmaniasis
- C. Schistosomiasis - **water based**
- D. Cryptosporosis

E. Legionella, **Fatal meningitis (Cocci)**

11. Which of the following statements is true, during pre-medical examination, if one is found to have communicable disease(s):

- A. Is employed as a food handler pending treatment ✗
- B. Is sent back home to come back when he/she is healthy ✗
- C. Is re-examined by another doctor ✗
- D. Is treated and may then be employed ✓
- E. Is treated and not employed ✗



Which of the following categories of pesticides inhibits acetyl cholinesterase and after the is removed from the exposure the enzyme reverts to a normal state?

- A. Organo-chlorines X
- B. Carbamates ✓
- C. Organophosphates Irreversible
- D. DDT Organochlorine
- E. Pyrethroids

Carbamate → reversible  
 Organo Phosph.

Best environmental method of disposing of Municipal solid waste is:

- A. Incineration ✓
- B. Compositing \*
- C. Controlled tipping
- D. Crude tipping
- E. Barging to the sea

• Sanitary Landfill  
 • Compositing  
 • Incineration  
 • Waste treatment

According to World Health Organization standard, the biological oxygen demand (BOD) of from a sewage treatment system being discharged into water courses should not

- A. 30 mg/l
- B. 20 ppm - normal million T/L
- C. 20ppb
- D. 30 ppm - should not go over exceed
- E. 40 mg/l

20 mg/L = 20 ppm

Which among the following statements is not true with regard to the Kenya Essential Package for Health (KEPH)?

- A. Is a strategy for enhancing the achievement of the Millennium Development Goals (MDGs) ✓
- B. Defines the health care services available at each level of health care delivery ✓
- C. Community strategy for the delivery of Level One Services targets all life cohorts that include pregnant and unborn babies as well as the elderly persons. ✓
- D. Eliminates the need to have specialized health facilities in the country ✓
- E. Is one of the strategies for implementing the Second National Health Sector Strategic Plan (NHSSP II) ✓

Which among the following statements is true of a Health Management Information System (HMIS)?

- A. Information generated by a HMIS is only useful for assessing the quality of care provided in a health facility
- B. Is fed with information from other sources other than the health facilities ✓
- C. Is only useful for facilities at level two, three, and four classification according to Norms and Standards of Health Service Delivery. ✓
- D. Only captures data/information on morbidity and mortality
- E. Is the sole source of information used for monitoring and evaluation of health programs.

17. In carrying out a formative evaluation of a health program, one would like to answer one of the following questions:

- A. To what extent should resources be reallocated? -
- B. Who needs the intervention? -
- C. To what extent have planned activities actually been realized? - summ
- D. How well was the service provided? - sum
- E. What are the observed outcomes? - sum

18. In preparing a budget which of the following statements is incorrect?

- A. Direct expenses are those incurred at the cost centre and controlled by the in charge of the particular centre.
- B. Indirect expenses i.e. are overhead costs not specifically identified with a particular cost centre e.g. building depreciation, utilities.
- C. Step down allocation involves establishing the direct costs and then allocating indirect costs using a formula.
- D. Activity based costing involves calculating the costs that go into a service and aggregating them upwards ✓
- E. The capital expenditure budget is a major component of the operating budget. fixed

19. Total deaths due to cause X in a year x 100,000

Total mid-year population in the year

The above ratio/ratio is referred to as:

- A. Age specific death rate
- B. Cause specific death rate ✓
- C. Crude death rate
- D. Cause specific death ratio
- E. Child-woman ratio

20. The maternal mortality ratio may be defined as the total number of maternal deaths ascribed pregnancy and puerperal causes occurring in a year multiplied by a factor and divided by

- A. The total mid-year population of women
- B. The mid-year population of women aged 15-49 years MOR ratio
- C. The total number of live births in a year 400/100,000 live birth
- D. The total mid-year population
- E. The total number of deaths from all causes in the year

$$\text{Ratio} = \frac{\text{No of maternal death}}{\text{NO. OF live bmn}}$$

Health

Health care utilization in Kenya is characterized by all the following except

- A. Traditional beliefs and behavior ✓
- B. Plural systems of health services ✓
- ~~C. Alternative medicines imported from outside the country~~
- D. Community's own resource persons in the medical practice ✓
- E. Community health workers and midwives ✓

Interactions

Interactions between ecology, health and disease are best portrayed by

- ~~A. Perceptions and actual diseases~~
- ~~B. Human behavior in the ecosystem~~
- C. Ecosystems refer to agriculture and related morbidities ✓
- D. Urban dairy is a health risk to the community ✓
- E. Tilling the land throughout the year impoverishes the soil ✓

Following are relevant in culturally determined health and illness except

- A. Belief systems discourage people from using modern health services ✓
- B. Modern and traditional health care provision remain in competition ✓
- C. Some traditional practices are quite harmful to health ✓
- D. Control and ownership of resources determine access to competent health care ✓
- ~~E. Community's reliance on herbal remedies conflict with local administration~~

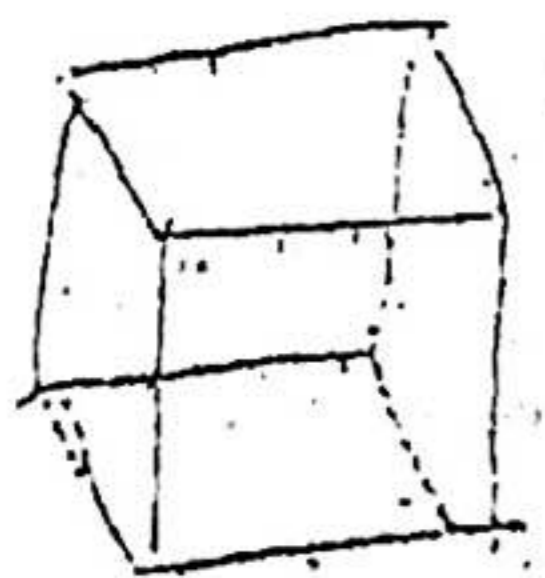
Which of the following is not an important determinant of successful community based health programs

Programs

- ~~A. Gender sensitivity in determining the direction the latrine door will face~~
- B. Cost effectiveness and affordability ✓
- C. Community involvement and partnership ✓
- ~~D. Highly qualified medical and other professionals~~
- E. Focusing on endemic diseases and illnesses ✓

Which of the following is an essential prerequisite of a community health worker

- A. Must meet certain standards of pharmaceutical qualification ✗
- ~~B. Must be selected and trusted by the community they serve~~
- C. Must possess high school or college level of education ✗
- D. Must expect to be paid according to their performance ✗
- E. Must be female as she will have to conduct home deliveries ✗



Gender studies are essential in health because issues affecting men and women are:

- A. Important determinants of health and disease in any population
- B. Only necessary for women who are globally considered the weaker sex
- C. Important in sexual health rather than other conditions of health and illness
- D. Far fetched since diseases are biological entities, not gender determined
- E. Essential components in planning and provision of health for the people

Women in age group 15-20 years are more exposed to HIV infection compared to young men of the same age group. One of the following is not a valid explanation:

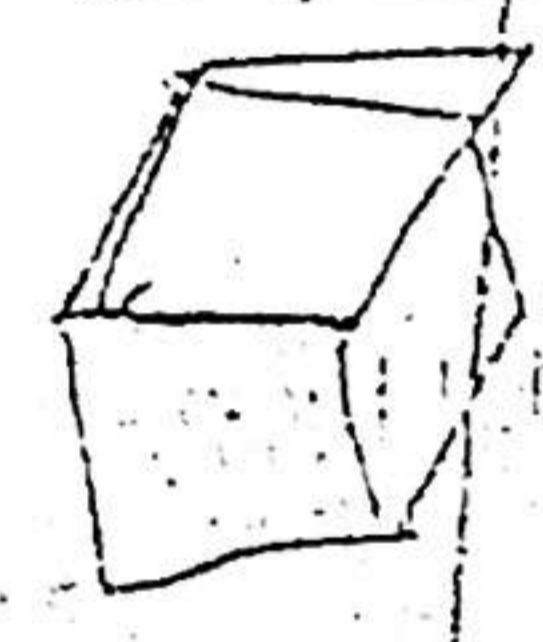
- A. Socialization and gender expectations subjugated women to compromised situations
- B. Ignorance about their bodies: women may delay seeking competent care
- C. Biologically the body of young women accommodates STIs easily
- D. Poverty may lead young women to resort to commercial sex
- E. A large proportion of these women are infected by older, wealthier men

The following statements are incorrect about Millennium Development Goals (MDGs)

- A. These are UN strategies for development and indicators to assess success
- B. They are mainly about gender and development
- C. Kenya has not adopted the idea of an ideal Millennium village
- D. Environment, institutional development and health are interrelated
- E. Partnership and mutual respect are essential for economic development

The nutritional status indicator typically with the highest prevalence in cross-sectional nutritional surveys is:

- A. Wasting 6%
- B. Underweight (W/A)
- C. DMH among men < 50 years
- D. Stunting 38%
- E. MUAC - wasting



Stunting: 28%  
wasting: 4%  
underweight: 11%

The infant feeding practice with greatest potential impact in reducing under five mortality is:

- A. Breastfeeding young children for at least 2 years
- B. Exclusive breastfeeding for 6 months
- C. Early initiation of breastfeeding (within 30 minutes of birth)
- D. Provision of nutritionally adequate foods from 6 months
- E. Appropriate feeding of children born to HIV positive women

Vit C, E, B1

Zn, Mg, Se

Following are the most important micronutrients for people living with HIV and AIDS:

- A. Vitamin A, C, E and selenium ✓ Zinc
- B. Vitamin A, C, and iron, Zinc
- C. Selenium, Iodine and Vitamin A, C ✓ Zinc, E
- D. Vitamin A, B-complex, selenium and iron
- E. Zinc, Vitamin A, C, E and selenium, Mg

Baby friendly hospital status is accorded to maternity facilities which on assessment are to:

BEH

- A. Adhere to the 10 steps to successfully breastfeeding ✓
- B. Adhere to the steps to successful breastfeeding and the code on marketing of breast milk substitutes
- C. Follow the National policy on infant feeding and the 10 steps to successful breastfeeding ✓
- D. Adhere to the code of marketing of breast milk substitutes ✓
- E. Adhere to the 10 steps to successful breastfeeding and guidelines on implementation of the breastfeeding policy ✓

The following is true of sexual behavior modification except:

- A. Sexual behavior can be altered ✓
- B. It is strictly genetic ✓
- C. Sexual behavior is learned ✓
- D. A learnt sexual behavior can be unlearned ✓
- E. The more the sexual partners the more a person is exposed to HIV infection ✓

Patient education means all the following except:

- A. Engagement
- B. Dialogue
- C. Telling patient/client what to do
- D. Providing examples of good practice
- E. Communicating the relevant messages

The community acceptance of a health education programme depends on all of the following except:

- A. Participatory identification of the programme needs ✓
- B. Putting demands on them to attend the educational sessions ✓
- C. Teasing out appropriate entry points ✓
- D. Using educational method that is participatory ✓
- E. Respecting complementary culture ✓

The following are true regarding malaria education except:

- A. Not everybody in the country has been reached with malaria prevention messages ✓
- B. People are generally willing to learn how to protect themselves from malaria ✓
- C. It is necessary for pregnant women to be targeted with educational messages ✓
- D. Poster reinforces the required preventive messages ✓
- ~~E. Experiential reduction of mosquitoes has better impact~~

2. Women need targeted HIV/AIDS education because of all the following except:

- A. HIV prevalence is more in women compared to men ✓
- ~~B. Women are definitely more important than men~~
- C. Power relations favor men compared to women ✓
- D. Women can have gonorrhea and not know, thus being more at risk of HIV infection ✓
- E. Woman controlled methods for HIV prevention are still scarce ✓

Which of the following is not among the Millenium Development Goals (MDG)?

- A. Promote Gender Equality and Empower Women ✓
- B. Reduce Child mortality ✓
- C. Improve Maternal Health ✓
- ~~D. Promote Good Nutrition for Mothers and Children~~
- E. Ensure Environmental Sustainability ✓

The following are indicators of a health facility's ability to provide Basic Emergency Obstetric except:

- ~~A. Administration of blood or blood products (Comprehensive BCC)~~
- B. Administration of parenteral oxytocics ✓
- C. Administration of parenteral anticonvulsants ✓
- D. Administration of parenteral antibiotics ✓
- E. Removal of retained products following miscarriage or abortion ✓

(BEOC)

C&D

3 BCC  
1. Parental  
2. maternal  
3. Placental  
4. EPO

Which of the following statements on Under-five Mortality Rate in Kenya is incorrect?

- A. The number of deaths among Under-fives per thousand live births ✓
- B. presents the probability that a child will live to celebrate the fifth birthday ✓
- C. wide regional disparities ✓
- ~~D. currently stands at 115 per 1000~~  $115/1000$
- E. has been increasing in the last ten years ✓

$U5MR = \frac{LS \text{ deaths}}{\text{Total pop}} \times 100$

Total pop LS



MCH II

In line with the goal of making Maternal and Child Health services available, the MCH

Program aims to:

- ✓ Increase access to within four kilometres ✓
- Substitute static health facilities with mobile and community based services
- ✓ Deploy doctors to health centres 30 mins
- ~~Reduce waiting time to within 10 minutes X~~
- ✓ Deploy Community Health Workers in Dispensaries

MCH  
 ↑ access to ch. U.K  
 ↓ waiting time b  
 30 mins

Factors that can explain the high Maternal Mortality Rate in Kenya include all the following

- cept:
- ✓ Harmful cultural practices ✓
  - ~~Inadequate number of TBAs~~
  - ✓ Poor access to EmOC centers ✓
  - ✓ Low quality of care ✓
  - ✓ Weak referral system ✓

The statement that every choice has an opportunity cost even in the health sector stems from the inescapable fact that in life:

- ~~A. There are always more than one choice and that in making one choice other useful ones have been avoided.~~
- ~~B. Every one and every system has more needs than the available resources to meet them~~
- C. Markets always have shortages of goods and services
- D. The health sector inputs are sometimes missing
- E. Shortages in delivery of health care are inevitable

The three categories of actors in economic systems are:

- A. Government, Ministry of Health, the traditional sector and Donors
- ~~B. Government, industrial sector, public service and the rural populations~~
- ~~C. Producers, consumers and government~~
- D. Donors, government, industrialists, populations at large
- E. Investors, social services sector, Ministry of Health

Social health insurance is distinguished from private health insurance by its structural characteristics which show that:

- A. It is based on socialist ideals
- ~~B. The government has nothing to do with it~~
- ~~C. It is all inclusive, relies on social solidarity and support from the public system~~
- D. It is not strict on quality of health services
- E. It allows the private sector to continue making profits

In a production process of goods or services marginal costs refer to:

- A. Costs of inputs in a production process
- B. Costs each item of output
- ~~C. Cost of producing an extra item of output ✓~~
- D. Costs of distributing the product to the consumers
- E. Increase in management allowances for raising the profit

macro economic system the concept of the cost of a disease refers to:  
 A. Direct cost of drugs and personnel that are used to treat the disease  
 B. Indirect cost, value of negative effects of the presence of a disease which include  
 treatment, morbidity and mortality effects  
 C. Costs of lives lost to the disease  
 D. Costs of training of new personnel to deal with the disease.  
 E. Establishment of the national control system for the disease.

Epidemiology is concerned with the following except:

- A. Carrying out of community diagnosis.
- B. Study of outbreaks or epidemics.
- C. Treatment of HIV/AIDS patients.
- D. Control and prevention of diseases.
- E. Identification of disease determinants.

Health related events, its distribution and determinants

Choose the odd-one out among the following:

- A. Convenience sampling. *Non-random sampling*
  - B. Stratified random sampling.
  - C. Purposive sampling.
  - D. Snowball sampling.
  - E. Quota sampling.
- Volunteer*

*others Non Random*

Ogumbo identified two groups of subjects, one exposed to saw dust and the other not exposed to saw dust. He then followed the two groups for ten years for development of disease. This is an example of a(n):

- A. Cross-sectional study.
- B. Experimental study.
- C. Case-control study.
- D. Ecologic study.
- E. Cohort study. *(prospective)*

appropriate measure of association for a case-control study is:

- A. Relative risk.
- B. Incidence.
- C. Odds ratio.
- D. Attributable risk.
- E. Case fatality rate.

57. Dr 'X' collected data on heights of 300 Level IV medical students. Which of the following is the most appropriate diagrammatic presentation of Dr X's data?

- A. Pie chart.  
 B. Frequency distribution.  
 C. Histogram.  
 D. Bar chart.  
 E. Scatter-diagram.

(B) p: discrete  
 Histogram: continuous

$\frac{0.05}{p}$

58. The heights in centimeters of 5 students are

165, 175, 176, 159, 170.

165, 175, 170, 176, 159

The sample median and sample mean are respectively:

- A. 170, 159  
 B. 170, 170  
 C. 169, 170  
 D. 176, 169  
 E. 176, 176.

159, 165, 170, 175, 176

59. Dr. South conducted a study to determine if an association exists between exposure to sawdust and occurrence of lung disease. The results of the statistical test gave a p-value of 1%.

Which of the following is not true regarding Dr. South's results?

- A. The results are statistically significant at 5% level of significance. ✓  
 B. The data do not provide enough evidence in favour of the null hypothesis. ✓  
 C. Dr. South has proved that there is a relationship between sawdust and lung disease.  
 D. The provided p-value is important in making the decision regarding the null hypothesis. ✓  
 E. The null hypothesis is rejected at 5% significance level.

level of significance

60. Which of the following statements is not true of the normal distribution?

- A. The curve is asymmetrical. Symmetrical  
 B. The distribution is determined by two parameters, namely, the mean and the standard deviation.  
 C. The measures of central tendency are identical.  
 D. Approximately, 95% of the data values lie between the mean plus or minus two standard deviations.  
 E. The area under the curve is equal to one.

