

1. Why is crude death rate a true rate unlike crude birth rate which is technically a ratio?
- a) Because CDR is not confounded by the age structure of the population unlike Crude Birth rate.
 - b) Because all measures of mortality contain persons in the denominator who are exposed to experience the event.
 - c) Because not all women contained in the numerator while computing CDR are exposed to the risk of giving birth.
 - d) Because the denominator in CDR only contains the population at risk of experiencing death
 - e) Because a crude measure cannot be a true rate
2. Which measure is defined as the total number of births divide by women in the reproductive age period (15-49 years) multiplied by 1000 population?
- a) Total fertility rate
 - b) General Fertility rate
 - c) Crude birth rate
 - d) Age specific fertility rate
 - e) Cohort fertility rate
3. One of the following statements is TRUE. Which one is it?
- a) A person who commutes daily from one geographical region to another is a migrant
 - b) A person who permanently moves to another city is a migrant
 - c) It is not possible to be an internal migrant if you have not changed residence from your country of origin/birth
 - d) Movement between the weekday home and the weekend home can constitute migration if it extends for over a year
 - e) Migration involves the change of geographical region - time of stay in the region of destination notwithstanding
4. Which of the following statement is FALSE?
- a) The difference between neonatal mortality and infant mortality is called perinatal mortality
 - b) Infant mortality rates will always be higher than post neonatal mortality rates for any one population
 - c) Child mortality rate can never be higher than the under-five mortality rate for any one population
 - d) Late fetal losses are considered still births
 - e) Kenya's under-five mortality rate dropped from 115 deaths to 52 deaths per 1000 live births between 2003 and 2014

5. What might be a good approximation to the population exposed to risk in the calculation of crude birth rate?
- Population at the start of the year
 - Population at the middle of the year
 - Population at the end of the year
 - All deaths recorded in the year
 - All births less deaths within a year
6. Which of the following statements is correct about the third stage of the demographic transition model?
- Birth rate high, death rate falling, total population increasing
 - Birth rate low, death rate low, total population high and constant
 - Birth rate falling, death rate high, total population increasing
 - Birth rate falling, death rate falling, total population increasing
 - Birth rate high, death rate low, total population high and constant
7. Which stage of the demographic transition does high birth rates and rapidly declining death rates describe?
- Stage 1
 - Stage 2
 - Stage 3
 - Stage 4
 - Stage 1 and 3
8. If a country has a population of 1,000,000 and a birth rate of 25, but a death rate of 20, how many births and deaths will it record annually?
- 250,000 births and 200,000 deaths
 - 25,000 births and 20,000 deaths
 - 25,000 births and 5,000 deaths
 - 250,000 births and 5,000 deaths
 - 2500 births and 500 deaths

$$\begin{array}{r}
 25 \\
 \times 100 \\
 \hline
 250000
 \end{array}$$

$$\begin{array}{r}
 25 - 1000 \\
 \times 1000000 \\
 \hline
 25000000 - 20000000 \\
 \hline
 5000000
 \end{array}$$

$$\begin{array}{r}
 1000000 \times 20 \\
 \hline
 20000000
 \end{array}$$

9. Which of the following Statement is **FALSE**?

- a) Conventionally, the net reproductive rate will always be less than a half the TFR of any population
- b) We obtain a net reproduction rate when we adjust the general reproduction rate to account for survivorship rates
- c) Crude Death rate is a true rate but infant mortality rate is not a true rate ✓
- d) De facto census counts people from where they were on the census night ✓
- e) Partial census of county A in a country is the same as a survey for county A in the same country

10. An appropriate pictorial technique for presenting the variable 'county of origin' in a community survey is:

- a) Bar chart
- b) Histogram
- c) Frequency polygon
- d) Cumulative distribution curve
- e) Stem and leaf plot

11. The 50th percentile is also known as the:

- a) Mean
- b) Median
- c) Mode
- d) Mid-range
- e) Central tendency

12. In Stevens' classification of data, the variable 'blood group' is classified as:

- a) Nominal
- b) Binary
- c) Ordinal
- d) Interval
- e) Continuous

13. The type of data that has inherent order and sensible arithmetic difference between the values but the zero is arbitrary is referred to as:

- a) Dichotomous
- b) Interval

- c) Ratio
 - d) Categorical
 - e) Ordinal
14. Which one of the following quantities is not a measure of variability?
- a) Mid-range
 - b) Range
 - c) Interquartile range
 - d) Variance
 - e) Standard deviation
15. Which one of the following variables may be presented pictorially using a histogram?
- a) Birth weight
 - b) Number of children
 - c) Religious affiliation
 - d) Sex
 - e) Stage of cancer
16. The standard error of the mean:
- a) Indicates the need for an intervention
 - b) Is utilized in statistical inference
 - c) Is important when comparing proportions
 - d) Is equivalent to the standard deviation of the population
 - e) Is only applicable to samples
17. Which one of the following variables is unlikely to yield values that follow the normal distribution?
- a) Maternal weight gain
 - b) IQ scores
 - c) Degree of oedema
 - d) Medical students' weights
 - e) Age of University students
18. If a data set has an infinite number of observations:
- a) The mean, median and mode are equal
 - b) The mean must be greater than the median
 - c) The mode must be greater than the mean
 - d) The variance and the mean are equal
 - e) None of the above are necessarily true

19. Which of the following best represents the concept of PHC as per ALMA ATA declaration?

- a) Nations of the commonwealth met at a small town in former Russia
- b) The concept of PHC marked the beginning of Health for all by year 2000
- c) ALMA ATA declaration was signed by global nations on 12th September 1978
- d) One of the main achievement was free health care by community volunteers
- e) The initial PHC elements were eight

20. In the definition of PHC the following apply, except:

- a) Essential health care made universally accessible to all
- b) Availability of basic and free health care for all
- c) With participation of Individuals, Families & Community
- d) By means acceptable to them
- e) And at a cost they can afford

21. The following were among the initial elements of PHC, except:

- a) Nutrition and food security
- b) Clean drinking water and Sanitation
- c) Prevention and management of HIV and AIDS
- d) Maternal Child Health & Family Planning
- e) Control of endemic diseases

22. In Community partnership the following apply, except:

- a) Complimentarily in service delivery and implementing research.
- b) Sustainability through local ownership and practical innovations
- c) Integrating services to address multiple challenges and life cycle cohorts.
- d) Realizing the gender differential in risk management
- e) Leveraging by building upon local health system/projects

23. In the definition of social mapping the following apply, except:

- a) Includes visual representation of a phenomena
- b) Includes physical and or spatial maps
- c) Includes social environment
- d) combination of a) and b) above only
- e) Institutional mapping does fit in well

24. Observational study designs include the following EXCEPT:-

- a) Case-series studies.
- b) Cohort studies.
- c) Clinical trials.
- d) Cross-sectional studies
- e) Case-control studies.

25. Occurrence of new cases of disease during some specified time period is referred to as:
- a) Relative risk.
 - b) Secondary attack rate.
 - c) Prevalence.
 - d) Proportionate rate.
 - e) Incidence.**
26. The appropriate measure of strength of association between exposure and disease for a cohort study design is:-
- a) Prevalence.
 - b) Attributable risk.
 - c) Relative risk.**
 - d) Attributable fraction.
 - e) Incidence rate.
27. In Epidemiology, 'determinant' refers to which of the following questions?
- ~~a) Why.~~
 - b) When.
 - c) What.
 - d) Who
 - e) Where
28. Advantages of case-control studies include the following except:
- a) Are relatively inexpensive as compared to cohort studies.
 - b) Incidence rates can be determined.**
 - c) Generally take less time to conduct.
 - d) Multiple exposures for the given outcome can be studied.
 - e) Are suitable for rare outcomes.
29. Delegation is an important skill for a leader A leader needs to delegate in because it allows them to concentrate on all the following areas except?
- a) routine office administration
 - b) strategic issues
 - c) personal health**
 - d) staff development
 - e) key customer issues
30. Which statement least describes a leader who desires high levels of control thinks that?
- a) Employees should be on time to work
 - b) Coaching 'slow' employees improves overall company performance**
 - c) Employees should conform to company policies
 - d) They are best placed to tell other people what to do
 - e) Things should always run 'like clockwork'
31. A child in casualty seems to have lost touch with the mother. You stop what you re doing and spend time gaining the confidence of the child and eventually she tells you her mother's name and what her problem is. The best kind of leadership theory to explain this leadership action is?
- a) Participative**

- b) Contingency
- c) Situational
- d) Big man
- e) Transactional/management

32. On day one of work the intern finds a happy and warm nursing manager who tells her "everyone here works together as a team and issues are decided at weekly meetings". This is an example of which leadership style?

- a) Charismatic
- b) Democratic
- c) Autocratic
- d) Laissez-faire
- e) Transactional

33. A Manager in their leadership capacity carries out all the following functions except?

- a) Organize
- b) Focus
- c) Align
- d) Inspire
- e) Scan

34. Which one statement best describes leadership?

- a) Influencing people towards a goal
- a) Promoting strategy development
- b) Developing the organizational mission statement
- c) Effectively communicating with staff
- d) Effective delegation of tasks to management

35. Which of the following statements is false?

- a) A woman gains an average of ten kilograms during pregnancy.
- b) Weight gain during pregnancy depends on pre-pregnancy weight
- c) Folic acid reduces the risk of obstetric complications and neural tube defects in new born babies.
- d) Breastfeeding mothers should consume 20-25% more food than before pregnancy.
- e) Maternal micronutrient status does not affect the levels of these nutrients in breastmilk.

36. Which among the following is the most effective way of addressing widespread micronutrient deficiencies in Kenya?

- a) Dietary diversification
- b) Improved food availability
- c) Food preservation
- d) Food fortification
- e) Nutrition education

37. All the following are challenges that face national food fortification programs except one.

- a) Identification of suitable food vehicles
- b) Selection of appropriate fortificants
- c) Establishing appropriate monitoring mechanisms

- d) Setting competitive prices for fortified products
- e) Acceptance and utilisation of fortified foodstuffs.

38. Which among the following interventions has Least potential in improving women's micronutrient status:

- a) Dietary modification
- b) Parasite control
- c) Fortification
- d) Supplementation
- e) Spaced pregnancies**

39. Which of the following practices is correct with regard to appropriate feeding of infants and young children?

- a) Infants 6-8 months should be fed 2-3 small nutritious meals per day**
- b) Breastfeeding frequency should be reduced after introduction of complementary foods.
- c) Breastfeeding should be initiated within the first 2 hours after delivery
- d) In very hot climate, water should be given in addition to breastmilk birth-6 months
- e) Mothers who are HIV positive should be advised to avoid breastfeeding to minimize chances of transmitting the virus to their infants.

40. All the following are important nutrition interventions within the Primary Health Care strategy except:

- a) Growth monitoring
- b) Timely and complete immunization for all infants
- c) Promotion of home gardening**
- d) Micronutrient supplementation
- e) Oral rehydration for children with diarrhoea.

41. All except one are useful strategies in the prevention and control of iron deficiency anemia among pregnant mothers.

- a) Avoiding consumption of tea/coffee with meals
- b) Consumption of sea foods
- c) Consumption of citrus fruits/juice with meals
- d) Avoiding consumption of foods high in goitrogens**
- e) Provision of iron/folate supplements to pregnant women

42. Which of the following is a consequence among children of severe deficiency in intake of iodine by mothers intra-utero?

- a) Mental retardation**
- b) Stunted growth
- c) Low work productivity
- d) Underweight children
- e) Skin and hair changes

43. Which of the following relating to micronutrient supplementation of vulnerable groups in Kenya is **false**?
- Children from 6-59 months receive 100,000 IU Vitamin A every six months
 - Pregnant in Kenya do not receive Vitamin A supplementation.
 - Women after birth receive 200,000 IU Vitamin A
 - Children 12 – 59 months receive 200,000 IU Vitamin A every six months
 - Pregnant women receive folic and ferrous sulphate
44. The strategy which holds the most promise in addressing food insecurity in Kenya is:
- Fortification of staple foods with micronutrients
 - Adoption and production of GM foods
 - Price subsidies for farm inputs for small farmers
 - Ensuring adequate grain stores in national reserves
 - Alleviation of poverty
45. Which among the following constitutes a **BASIC** cause of childhood malnutrition in Kenya?
- Poverty
 - Inadequate maternal and child care
 - Inadequate food intake
 - Household food insecurity
 - Diseases
46. Which of the following statements is NOT true about hazard analysis critical control point (HHACCP)?
- Deals with identification of hazards
 - It is fully enforced by regulatory agencies/bodies
 - It is an approach or process applied to ensure the safety of food
 - It involves evaluation of the hazards
 - Deals with monitoring of the hazards
 - It was first introduced in United States of America
47. Which of the following statements is TRUE, during pre-medical examination, if one is found to have communicable disease(s), he or she is:
- Is employed as a food handler pending treatment
 - Is send back home to come back when he/she is healthy
 - Is re-examined by another doctor
 - Is treated and may then employed
 - Is treated and not employed
48. Which of the following is an indicator of the status of drinking water quality:
- Concentration of 1.2-1.5 ppm free chloramines in water
 - Concentration of chlorine demand in water
 - Concentration of free residual chlorine

- d) Concentration of 0.2 –0.5 ppm free residual chlorine in water
e) Presence of chlorine and pathogens
49. Which of the following pesticides are known to depress the enzyme acetyl cholinesterase?
a) Organo-chlorines and carbamates
b) Organophosphates and organochlorines
c) Pyrethroids and carbamates
d) Carbamates and organophosphates
e) Organochlorines and pyrethroids
50. All of the following are ways of reducing fly nuisance in ordinary pit latrines except
a) Use of pesticides
b) Use of chameleons
c) Use of burning hay
d) Use of hot water
e) use of flue pipe
51. In conventional sewage treatment works, primary treatment is accomplished by:
a) Sedimentation tanks
b) Screening
c) Oxidation
d) Chlorination
e) aeration
52. One advantage of using stabilization ponds for sewage treatment is:
a) they use the sun as natural source of energy
b) they occupy small space
c) they are odourless
d) their effluent is 100% free of pathogens
e) They produce fertilizers
53. All of the following are factors that should be considered for municipal solid waste disposal site except:
a) Water table
b) Population density
c) nearness to an airport
d) Distance from the town center
e) Gender of the workers
54. Which one of the following air pollutants with direct effect on human health is formed through a photochemical process?
a) Nitrous oxide
b) Nitrogen Dioxide
c) Sulphurous acid
d) Ozone
e) carbon dioxide

55. The following are examples of 'Host determinants' EXCEPT:

- a) Lifestyle.
- b) Attitude.
- c) Eating habits.
- d) Altitude.
- e) Marital status.

56. In describing the distribution of a disease in a population, one needs consider the following factors EXCEPT:

- a) Person being affected by the disease, -
- b) Time of its occurrence. ✓
- c) What caused the disease, -
- d) Place of occurrence.
- e) and (d) above.

PPT
Kilon
where
who
what ✓

57. The relationship between Incidence and Prevalence for a stable disease in the population is given by:

- a) $\text{Prevalence} = \text{Incidence} \text{ divided by average duration.}$
- b) $\text{Prevalence} = \text{Incidence} \times \text{Average duration.}$
- c) $\text{Average duration} = \text{Incidence} \times \text{Prevalence.}$
- d) $\text{Average duration} = \text{Prevalence} - \text{Incidence.}$
- e) $\text{Prevalence} = \text{Incidence.}$

P = ID

58. A study design for which subjects exposed to high salt intake and those not exposed are identified and then followed-up for development hypertension is an example of which type of study?

- a) Case-control study.
- b) Case study.
- c) Experimental study.
- d) Cross-sectional study.
- e) Cohort study

59. The disease "scabies" is categorized as:-

- a) Oral-faecal water related infections
- b) Water dispersed infections
- c) Water washed infections
- d) Water insect related infections
- e) Water based infections

60. Once the municipal water has been treated in conventional treatment process, the two tests that are carried to ascertain potability of the water are:-

- a) Trihalomethanes and chlorine level tests
- b) Free residual chlorine and E.coli tests
- c) Fluoride and E. coli tests
- d) E. coli and nitrates tests
- e) pH and turbidity tests

CIRCLE THE CORRECT ANSWER

1. Culture may be defined as the following except:
 - (a) System of organizing the community
 - (b) Traditional ways of African communities
 - (c) Shared values and norms
 - (d) Set of beliefs and practices
 - (e) Ways of identifying a community

2. The cultural model of health emphasizes the following except:
 - (a) Patient's experiences of ill health ✓
 - (b) Local meaning-centredness ✓
 - (c) African traditional beliefs and practices
 - (d) Cultural ideas of illness causation that are largely personalistic ✓
 - (e) Explanations of illness and labelling as engendered in culture ✓

3. Food taboos are guided by the following except:
 - (a) Religion
 - (b) Residence in developing countries ✓
 - (c) Sacredness and Totemism
 - (d) Social status
 - (e) One's health condition

4. Cultural practices are sustained in communities because of the following except:
 - (a) They are not amenable to change
 - (b) They define communities ✓
 - (c) They have meaning for the practicing communities ✓
 - (d) They are part of socialization ✓
 - (e) They are core to the belief system ✓

5. In Kenya the dominant model of health care is the following:
 - (a) Biomedical model
 - (b) Cultural model

Registration no: _____

- (c) Traditional model
- (d) Herbal medicine
- (e) Acupuncture

6. The following could be described as "diseases of development" except:

- (a) Epilepsy
- (b) Obesity
- (c) Diabetes
- (d) Malnutrition
- (e) Gout

7. Health and the causal web recognizes the following except:

- (a) The need for a holistic approach to health ✓
- (b) Integrative analysis of health, disease and care seeking ✓
- (c) Takes into account both social and health sciences ✓
- (d) Disease causation and maintenance of health a largely personalistic ✓
- (e) Recognizes the role of man/community in health ✓

8. The importance of social context in health lies in

Ex Gout

- (a) Fostering cultural relativism versus ethnocentricity
- (b) Allowing one to decipher how people view their own situation and how they solve their problems
- (c) Appreciating the inside view
- (d) Setting the basis for appropriate interventions
- (e) Isolating the communities for health promotion

9. The reasons for the practice of female genital mutilation include the following except:

- (a) Tradition
- (b) Transition to adulthood and marriage
- (c) Hygiene ✓
- (d) Inflicting pain as a form of discipline
- (e) Taming of women's sexuality

Registration no: _____

10. The statement "Any combination of learning experiences designed to help individuals and communities improve their health, by increasing their knowledge or influencing their attitudes" best describes

- (a) Physical Health
- (b) Health Education
- (c) Health and wellness
- (d) Health Promotion
- (e) Determinants of Health

process of enabling people to increase their health by removing their health

11. Immunization falls under which form of prevention?

- (a) Primary prevention
- (b) Secondary prevention
- (c) Tertiary prevention
- (d) Disease prevention
- (e) None of the above

12. A Health Message is considered credible when it is

- (a) From a trustworthy source
- (b) Scientifically proven
- (c) Based on facts
- (d) Compatible with culture
- (e) All of the above

13. The six stages in the adoption of new ideas and practice typically occur in the following order

- (a) Adoption, Evaluation, Trial, Awareness, Unawareness, Interest
- (b) Unawareness, Interest, Awareness, Trial, Evaluation, Adoption
- (c) Unawareness, Awareness, Interest, Evaluation, Trial, Adoption
- (d) Awareness, Unawareness, Interest, Evaluation, Trial, Adoption
- (e) Unawareness, Interest, Evaluation, Adoption, Trial, Awareness

Registration no: _____

14. Excessive noise and congestion are considered barriers to effective communication and may be categorized as:

Environmental barriers

Physiological barriers Physiological barriers

(c) Cultural barriers

(d) Psychological barriers

(e) Political barriers

15. Which of the following set of communication channels make up what is referred to as electronic media?

(a) Story-telling, Drama, Song and dance, Radio

(b) Posters, Television, Drama, Newspapers ✓

(c) Social media, Internet, Television, Leaflets ×

Radio, Television, E-mails, Social media

(e) Newspapers, Films, Songs, Internet

16. The first step in the health education process is

(a) Planning and implementing patient/client teaching

(b) Evaluating the learning process

Assessing learning needs

(d) Documenting teaching and learning

(e) Developing learning objectives

17. Parents' roles as members of the school health team include

(a) Follow-up on children found to be sick ✓

(b) Ensure maintenance of proper school health records ✓

(c) Assist in formation of good healthy living behavior ✓

(d) Should be actively involved in school health program planning and implementation


a, c and d above

18. The model of health and health promotion that focuses on biological or physical aspects of disease and illness, is practiced by doctors and other clinical healthcare professionals and includes diagnosis, treatment and cure

- (a) Health Belief Model
- (b) Social Ecological Model
- (c) Trans-theoretical Model
- (d) Biomedical Model of Health
- (e) Health Promotion Model

19. Which of the following is not a necessarily objective of a health system?

- (a) Deliver safe care
- (b) Effectiveness
- (c) Quality services
- (d) Minimum wastage ✓
- (e) Integrated services to the population ✗

 20. The following activities occur during performance review phase of human resource management for health except?

- (a) Continuous review of performance targets as needed ✓
- (b) Adjustment and refinement of objectives based on feedback, new constraints, and new inputs
- (c) Elimination of inappropriate goals
- (d) Re-adjustment of output timetable as needed
- (e) Review of overall organizational and departmental goals for the next planning period

21. Which of the following is not a directing function in health services management?

- (a) Telling people what is to be done and explaining how to do it ✓
- (b) Issuing instructions and orders to subordinates This is what makes it wrong -
- (c) Inspiring them to contribute towards the achievement of objectives ✓
- (d) Supervising their activities ✓
- (e) Providing leadership and motivation ✓

Registration no: _____

22. Borrowing from the principles of scientific management, which of the following is not a pre-requisite for improving care delivery in a hospital setting
- (a) Developing science to replace traditional methods of service at work
 - (b) Scientifically selecting, progressively teaching and developing the workforce
 - (c) Creating an environment where scientifically selected workforce can apply science
 - (d) Ensuring discipline by clearly defining authority and responsibility structures
 - (e) Division of labour between the workforce and hospital management
23. Which of the following is a behavioral skill which can be assessed in health care management?
- (a) Testing
 - (b) Assertiveness ✓
 - (c) Analytical review
 - (d) Audit methodology and scope
 - (e) Sampling
24. Which of the following is not a **CORE** function of health care managers?
- (a) Planning
 - (b) Organizing *pos oc*
 - (c) Supervising - *staffing*
 - (d) Directing
 - (e) Controlling
25. Health planning is a part of national planning and entails all the following except:
- (a) Defining community and population health problems,
 - (b) Identifying unmet needs
 - (c) Surveying the resources to meet them,
 - (d) Establishing priority goals that are realistic and feasible and
 - (e) Segregating population in units for purpose of census

Registration no: _____

26. Which of the following is one of the overall goals of the health system according to the WHO?

- (a) Access
- (b) Coverage
- (c) Quality
- (d) Safety
- (e) Social and financial risk protection ✓

27. The following statements are true about a good health financing model except:

- (a) A mix of public and private financing and public and private provision. ✓
- (b) Effective and efficient use of government allocated resources. ✓
- (c) Raises additional funds where health needs are high and revenues insufficient. ✓
- (d) Reducing reliance on out-of-pocket payments where they are high. ✗
- (e) Improving efficiency of resource use and addressing fragmentation of financing arrangements for different types of services ✓

28. All of the following are associated with work related stress except:

- (a) May be caused by organization structure
- (b) May be caused by relationships with workers
- (c) May be minimised by increase in wages ✓
- (d) May cause pathological conditions such as heart infarction ✗
- (e) Occurs in three stages, alarm, resistance and exhaustion

29. Environmental causes of accident include all of the following except.

- (a) Bad house keeping
- (b) Poor and defective tools
- (c) Mental and emotional disturbance - *psychological*
- (d) Inadequate guarding of machines
- (e) Unsuitable clothing

30. Workers in industries that manufacture thermometers are likely to suffer from:

- (a) Silicosis
- (b) Bysinosis

Registration no: _____

35. Which one of the following occupational diseases is caused by asbestos fibres?
- (a) Black lung disease
 - (b) Salmonellosis
 - (c) White lung disease
 - (d) Bagassosis
 - (e) Byssinosis
36. In USA, the implementation of the policies on health and safety at work place is under the responsibility of Occupational Safety, Health and Administration while in Kenya it is under the:
- (a) Central Organization of Trade Unions
 - (b) Federation of Kenya Employers
 - (c) Directorate of Occupational Safety and Health Services
 - (d) Directorate of Labour and Health
 - (e) Director of Medical Services and Health
37. The three categories of actors in an economic system 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
38. The statement that economics stems from the inescapable concept of Scarcity means that:
- (a) Economists have their own language
 - (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

Registration no: _____

39. One of the disadvantages of investing in a partnership form of business is that:
- (a) It can only be run by friends
 - (b) The physical premises have to be near the residence of the partners
 - (c) In case of commercial loss the other wealth of the families might also be affected
 - (d) It is not is evade taxation
 - (e) The partners enjoy the profits alone
40. The concept of opportunity cost refers to the fact that:
- (a) There are more poor than rich people
 - (b) The health sector inputs are sometimes missing
 - (c) Markets always have shortages of goods and services
 - (d) Every one and every system has more needs than the available resources to meet them
 - (e) There are always more than one choice and that in making one choice other useful ones have been avoided.
41. In a production process of goods or services average 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 margin
42. The phenomenon that occurs in the market when price controls set the prices above the equilibrium is
- (a) Market depression
 - (b) Market surplus or commodity glut
 - (c) Sphere shortages
 - (d) Capital migration
 - (e) Shrinkage in production

43. Market equilibrium occurs when
- (a) Everybody in the market is happy
 - (b) Price controls have been withdrawn
 - (c) Supply equals demand
 - (d) A shift in demand curve has been experienced
 - (e) Supply of goods has stagnated.
44. In a market situation a shift in demand curve at a given price occurs when:
- (a) There is rise in the general level of inflation
 - (b) Consumers change their preferences
 - (c) There is sudden big change in one or more of the other determinants of demand
 - (d) Price controls are introduced
 - (e) Price is fixed below the equilibrium
45. Price elasticity of demand refers to
- (a) Price responsiveness to changes in demand
 - (b) Range of possible prices in the market
 - (c) Settlement of price in the haggling process
 - (d) Responsiveness of demand to changes in price
 - (e) Lapse of time before price changes are realised
46. All of the following are true of a communicable disease process except
- (a) Agent inside the reservoir
 - (b) Escape of the agent from the reservoir
 - (c) Transmission of the agent
 - (d) Entry of the agent into a new host
 - (e) Development of the agent inside the reservoir.
47. Least measures in prevention or control of communicable diseases can be taken at one of these points.
- (a) At the level of the reservoir
 - (b) Exit from the reservoir
 - (c) In the mechanism of transmission

Registration no: _____

- (d) At the level of entry into the host.
(e) Inside the host.
48. All of the following are true of direct transmission of communicable diseases except
- (a) Agent goes directly from host to reservoir *- Reservoir - host*
 - (b) Sexually transmitted diseases is an example ✓
 - (c) Respiratory diseases are examples ✓
 - (d) Anatomic and physiological considerations are important. ✓
 - (e) Sociological, economic and cultural factors important. ✓
49. The following is true of biological transmission by vectors except
- (a) An essential part of the life-cycle of the parasite takes place in the body of the vector.
 - (b) An interval of time elapses before the vector can transmit the parasite to another host.
 - (c) The process is temperature dependent.
 - (d) Temperature is essential for survival of the vector
 - (e) Limits prevalence of certain vector-borne diseases
50. All of the following are important in categorization of diarrheas except
- (a) Maybe be important in making a tentative diagnosis
 - (b) May assist in deciding the possible epidemic potential
 - (c) May be a pointer to management strategies for the outbreak
 - (d) Course and duration of the diarrhoea may be a factor for consideration
 - (e) The presence or absence of fever has little role in management
51. All of the following are true of transmission of Cholera except
- (a) Most usual by fecal oral route from contaminated water.
 - (b) No significant animal reservoir
 - (c) Infective dose is low in healthy adults with normal gastric acidity
 - (d) Food-borne cholera due to contamination of food by polluted water.
 - (e) Direct person-to-person transmission unusual

Registration no: _____

52. All of the following are true of Lymphatic filariasis except

- (a) Caused by nematodes that inhabit the lymphatic vessels and lymph nodes of a human host.
- (b) Infective larvae are transmitted by infected biting mosquitoes during a blood meal.
- (c) The adults dwell in lymphatic vessels and lymph nodes where they can live for several years.
- (d) The female worms produce microfilariae which circulate in the blood.
- (e) The microfilariae are responsible for the clinical features

53. All of the following are true of malaria except

- (a) Transmitted by bite of certain species of *Anopheles* mosquitoes.
- (b) Only female *Anopheles* mosquitoes feed on blood as required for maturation of the eggs.
- (c) Immunity is cell-mediated
- (d) Parasites escape from the cytotoxic action of humoral antibody by altering their antigenic construction
- (e) Host continually infected in presence of fully protective antibodies

54. All of the following are true of residual house-spraying for malaria control except

- (a) Control is being focused on adult forms.
- (b) Relies on application of residual insecticides to the interior surface of walls of houses.
- (c) The effectiveness depends on the indoor resting habits of the mosquitoes.
- (d) The effectiveness depends on the outdoor resting habits of the mosquitoes.
- (e) Has been used for malaria eradication

55. The outcome variable in Kenya's MOH maternal and newborn health model is?

- (a) Maternal death
- (b) Newborn death
- (c) Maternal morbidity and disability
- (d) Child morbidity and disability

Registration no: _____

(e) Maternal and newborn health

56. What is the correct numerator in the computation of perinatal mortality rate?

- (a) Stillbirths plus miscarriages
- (b) Fresh plus macerated stillbirths
- (c) Stillbirths plus early neonatal deaths
- (d) Early plus late neonatal deaths
- (e) Neonatal plus infant deaths

57. Which of the following conditions is a proximate variable in the framework for analyzing child morbidity and mortality?

- (a) Polio
- (b) Measles
- (c) Malaria
- (d) Malnutrition / *infection*
- (e) Vitamin A deficiency

58. Intermediate determinants of maternal morbidity and mortality include all the following except:

- (a) Unknown factors
- (b) Health seeking behaviour
- (c) Education status of the mother
- (d) Health status of the mother
- (e) Reproductive status of the mother

59. Which of the following is not a component of the Maternal Health Benefit Package of the Presidential Initiative on free maternal deliveries and primary health care service?

- (a) Management of complications related to pregnancy
- (b) Maternal malnutrition
- (c) Post-natal care
- (d) Referral services
- (e) Family planning services

Registration no: _____

60. Which of the following is not among the reasons why nearly half of births in Kenya are delivered under unskilled health providers?

- (a) Long distances to health facilities, ✓
- (b) Inadequate transport services, ✓
- (c) Inadequate number of health personnel, ✓
- (d) Inadequate drugs and medical supplies ✓
- (e) Facility charges ✓



SECTION I: MULTIPLE CHOICE QUESTIONS (MCQs)

1. An investigator sampled 200 individuals for malaria where 50 of them tested positive. He expressed the result of the study as 1:3. The reported result is a form of:

- (a) Rate
(b) Risk
(c) Proportion
(d) Count
(e) Odds

$$\frac{150}{50} = 3$$

$$\frac{50}{150} = \frac{1}{3}$$

$$\frac{50}{200} = \frac{1}{4}$$

2. A researcher is interested in recording the frequency of individuals in a particular geographic region who have a common cold at some point during the month of February 2001. Which of the following measures would be most appropriate in answering this question?

- (a) Point prevalence**
~~(b) Period prevalence~~ ✓
(c) Cumulative incidence
(d) Incidence density
(e) Attack rate

3. The attack rate in susceptible people who have been exposed to a primary case is referred to as:-

- (a) The attack rate
(b) The post-primary attack rate
~~(c) The secondary attack rate~~ ✓
(d) The person-to-person attack rate
(e) The post-secondary attack rate

4. Which is the most appropriate measure of the strength of an association for a cross-sectional study?

- (a) Attributable fraction
(b) Incidence risk ratio
~~(c) Prevalence ratio~~ and OR
(d) Incidence rate ratio
(e) Attributable risk

5. Which of the following is NOT TRUE of cross-sectional studies?

- (a) They are suitable for studying common diseases ✓
(b) Prevalence is the only outcome of interest ✓ measure prevalence not incidence
(c) There is a temporal sequence between the exposure and outcome
~~(d) Random sampling is necessary to achieve representativeness~~
(e) They are suitable for planning purposes ✓

6. Health care managers play the following decision-making roles **EXCEPT**:
- (a) Entrepreneur
 - (b) Conflict resolution
 - (c) Resource allocation
 - (d) Negotiations
 - (e) Financing
7. Health care planning entails all the following **EXCEPT**:
- (a) Defining health problems
 - (b) Surveying resources to meet unmet needs
 - (c) Priority setting
 - (d) Segregating population into units for census
 - (e) Identifying unmet needs
8. The following are goals of a health system **EXCEPT**:
- (a) Improved population health
 - (b) Responsiveness
 - (c) Social and financial risk protection
 - (d) Policy development
 - (e) Improved efficiency
9. Health care managers perform the following **CORE** functions **EXCEPT**:
- (a) Planning
 - (b) Organising
 - (c) Controlling
 - (d) Directing
 - (e) Supervising - *SK*
10. Which of the following is **NOT** a principle of delegation in health care management?
- (a) Principle of Expected Result
 - (b) Principle of parity of authority and responsibility
 - (c) Principle of absolute responsibility
 - (d) Principle of authority level
 - (e) Principle of management by objective ✓
11. Most measures in prevention and control of communicable diseases can be taken at one of the following points:
- (a) Level of the reservoir
 - (b) Exit from the reservoir
 - (c) Mechanism of transmission
 - (d) Entry into the host
 - (e) Inside the host

12. All of the following are important in categorization of diarrhoeas **EXCEPT**:
- (a) Presence of fever
 - (b) Presence of pain
 - (c) Presence of convulsion
 - (d) Nature of diarrhoea
 - (e) Course of the diarrhoea
13. All the following are true of ^{lymphatic} **emphatic filariasis** **EXCEPT**:
- (a) Adult inhabit lymphnodes
 - (b) Larvae are infective to humans
 - (c) Larvae multiple in the mosquitoes ✓
 - (d) Adult worms are the pathogenic forms
 - (e) Larvae are mainly nocturnal
14. One of the following is **NOT** a use of surveillance data for non-communicable diseases:
- (a) Identify the extent of the problem
 - (b) Map emerging patterns and trends
 - (c) Measure progress in primary prevention
 - (d) Contribute to policy making
 - (e) Apportions blame to junior health staff
15. One of the is **NOT** associated with tobacco use
- (a) Positive reinforcement ✓
 - (b) Withdrawal symptoms ✓
 - (c) Negative reinforcement ✓
 - (d) Nicotine addition ✓
 - (e) Disease burden and premature deaths affect mostly the wealthy ✓
16. The term "dusty lung" refers to an occupational disease known as:
- (a) Fibrosis
 - (b) Pneumoconiosis ✓
 - (c) Cynosis
 - (d) Proteinosis
 - (e) Mycosis
17. Any occupational hazard has potential to cause any or all of the following **EXCEPT**:
- (a) Death
 - (b) Property damage
 - (c) Accident
 - (d) Musculoskeletal syndrome
 - (e) Methemoglobinemia

18. Which of the following is associated with Bernard Ramazzini
- (a) Father of occupational medicine
 - (b) Was a German scholar
 - (c) Described diseases of mines
 - (d) Noted lead poisoning among workers in the mining industry
 - (e) Pathologist who described lead and copper poisoning among workers
19. All of the following are ways of reducing environmental causes of accidents EXCEPT:
- (a) Guarding/fencing of moving machines
 - (b) Adequate lighting clearly marked gang ways
 - (c) Clearly marked gang ways
 - (d) Better job placement — answer factor
 - (e) Good house keeping
20. All of the following are job demands that may cause work related stress EXCEPT:
- (a) Unrealistic expectation or deadlines ✓
 - (b) Unmanageable workloads ✓
 - (c) Not being involved in organizational decision making ✓
 - (d) Too little workload
 - (e) Technology overload ✓
21. The category of pesticides that are very sensitive to sunlight are:
- (a) Organophosphates
 - (b) Organochlorines
 - (c) Carbamates
 - (d) Pyrethroids
 - (e) Fumigants
22. The most effective strategy for prevention or control of environmental hazards/factors such as water pollution is:
- (a) Punitive measures strategy
 - (b) Legislative strategy
 - (c) Denying industries operational licenses
 - (d) Locating industries away from water bodies
 - (e) Locating industries in rural areas
23. It is established that communities who experience incidences of water scarcity are likely to have a proportion of members who may have **ONE** of the following:
- (a) Waterborne diseases
 - (b) Water scarcity diseases
 - (c) Water based diseases
 - (d) Water insect or vector borne diseases
 - (e) Water washed diseases

24. Common air pollutants associated with respiratory symptoms are all of the following EXCEPT:

- (a) Particulate matter
- (b) Ozone
- (c) Nitrogen
- (d) Carbon dioxide
- (e) Sulphur dioxide

25. In City X, the number of people is 3 million. The residential waste generation/person per day is 0.59 kg. Calculate the uncollected amount of waste (kg/day) if the city collects only 50%/day

$$\frac{3,000,000 \times 0.59}{2} = 1,770,000 \text{ kg}$$

- (a) 177,000 kg
- (b) 0.885000 kg
- (c) 177,000 tonnes
- (d) 0.885000 tonnes ✓
- (e) 3,000,000 kgs.

26. Which of the following is NOT one of the stages of Trans-theoretical Model of Health Promotion?

- (a) Relapse ✓
- (b) Termination ✗
- (c) Contemplation
- (d) Maintenance
- (e) Pre-contemplation



27. The following are considered barriers to patient Health Education EXCEPT:

- (a) Language
- (b) Culture
- (c) Adequate literacy ✓
- (d) Severe pain ✓
- (e) Acute illness

28. Which of the following is considered a CHEMICAL health hazard?

- (a) Viruses ✓
- (b) Pesticide ✓
- (c) Radiation ✓
- (d) Fatigue ✓
- (e) Radon gas ✓

29. "The process of enabling people to increase control over the determinants of health and thereby improve their health" is the standard definition for:
- (a) Physical Health
 - (b) Health Education
 - (c) Wellness Education
 - (d) Health Promotion ✓
 - (e) Health Communication

30. In communication, information from the communicator to the recipient is transmitted through

a _____

- (a) Feedback
 - (b) Sender
 - (c) Message
 - (d) Receipt
 - (e) Channel
31. All the following quantities are measures of variability, **EXCEPT**:
- (a) Mid-range ✓
 - (b) Range
 - (c) Interquartile range
 - (d) Variance
 - (e) Standard deviation

32. All the following statements are appropriate for alternative hypothesis **EXCEPT**:

- (a) Maternal weight gain and sex of the baby are independent
- (b) IQ scores for males are higher than those of females .
- (c) Degree of oedema is associated with weight
- (d) Medical students are taller than arts students .
- (e) University education impacts job performance.

33. Which of the following variables may be presented pictorially using an ogive?

- (a) Birth weight
- (b) Number of children ✓
- (c) Religious affiliation
- (d) Sex
- (e) State of cancer

34. An appropriate pictorial technique for representing the variable "number of children" in a community survey is:

- (a) Bar chart
- (b) Histogram
- (c) Frequency polygon
- (d) Cumulative distribution curve ✓
- (e) Stem and leaf plot

35. The 50th percentile is also known as the:
- (a) Mean
 - (b) Median ✓
 - (c) Mode
 - (d) Mid-range
 - (e) Central tendency
36. Culture may be defined as the following **EXCEPT**:
- (a) Traditional ways of African communities ✓
 - (b) System of organizing the community
 - (c) Set of beliefs and practices
 - (d) Ways of identifying a community
 - (e) Shared values and norms
37. Cultural practices are sustained in communities because of the following **EXCEPT**:
- (a) They are core to the belief system ✓
 - (b) They are not amenable to change
 - (c) They define communities
 - (d) They have meaning for the practicing communities
 - (e) They are part of socialization
38. The importance of social context in health lies in: *except*
- (a) Allowing one to decipher how people view their own situation and how they solve their problems
 - (b) Fostering cultural relativism versus ethnocentricity
 - (c) Setting the basis for appropriate interventions
 - (d) Appreciating the inside view
 - (e) Isolating the communities for health promotion ✓
39. The following could be described as “diseases of development” **EXCEPT**:
- (a) Gout
 - (b) Epilepsy ✓
 - (c) Malnutrition
 - (d) Obesity
 - (e) Diabetes
40. Food taboos are guided by the following **EXCEPT**:
- (a) Social status
 - (b) Residence in developing countries ✓
 - (c) Religion
 - (d) One's health condition
 - (e) Sacredness and totemism

41. One advantage of running a limited liability company is:
- (a) Profit is guaranteed ~~✓~~
 - (b) The company is favoured in taxation
 - (c) Personal and family welfare is protected in case the business has to be penalized for any failures ✓
 - (d) Is favoured by the law
 - (e) It is required to open branches
42. In the production process four types of factors are always present
- (a) Labour, managers, inputs and security
 - (b) Capital, labour, their owners and managers
 - (c) Capital, land, labour and risk takers - *Entrepreneurship*
 - (d) Raw materials, managers, employees and utilities
 - (e) Electricity, labour, managers and raw materials
43. Cross-elasticity of demand refers to:
- (a) Responsiveness of price to changes in demand
 - (b) Responsiveness of demand of the index commodity to changes in the demand of substitute or complementary commodities
 - (c) Range of possible prices in the market
 - (d) Settlement of price in the haggling process
 - (e) Lapse of time before prices are settled
44. Black market occurs when:
- (a) Price controls set price below the market equilibrium price
 - (b) Most trading occurs at night
 - (c) Trading does not happen in the open
 - (d) Government is not supervising the market effectively
 - (e) There is unrest in the country
45. The phenomenon that occurs when price control set price above the equilibrium price is:
- (a) Market depression
 - (b) Market surplus or commodity glut
 - (c) Severe shortages
 - (d) Capital migration
 - (e) Shrinkage in production
46. Which of the following is not among the major causes of morbidity and mortality among children in Kenya?
- (a) Pneumonia
 - (b) Anaemia
 - (c) Measles -
 - (d) Malaria
 - (e) Diarrhea

47. A demographic rationale is one of the arguments for placing emphasis on maternal and child health in developing countries. Which of the following is not a feature of an expansive pyramid?
- (a) Broad base ✓
 (b) Low death rate ✓
 (c) Rapid rate of population growth ✓
 (d) High proportion of children ✓
 (e) Low proportion of older people ✓
48. Preventability of diseases among women and children is one of the rationale for placing emphasis in maternal and child health care. Which of the following is not among the MCH services?
- (a) Family planning ✓
 (b) Post natal care ✓
 (c) Post partum care ✓
 (d) School health clinics ✓
 (e) Child welfare clinics ✓
49. Which of the following is not among the goals of a maternal and child health (MCH) programme?
- (a) To reduce the prevalence of disease in the population ✓
 (b) To prevent disease particularly through effective immunization ✓
 (c) To treat disease early ✓
 (d) To identify high risk cases and arrange frequent follow-up or referral ✓
 (e) To educate parents on how to cope with health problems at home. ✓
50. The organizational structure for delivering maternal and child health care in the countries is similar to that at the national level but uses different titles for corresponding positions. The title for the county position equivalent to principal secretary of the national level is:
- (a) County secretary ✓
 (b) County officer ✓
 (c) Chief officer ✓
 (d) Clinical officer ✓
 (e) MCH officer ✓
51. The number of males at birth for a particular population is 62,000 while the corresponding female births for the same population is 60,100. Calculate the sex ratio
- (a) 1.00
 (b) 0.97
 (c) 1.03 ✓
 (d) 0.99
 (e) 1.97
- 6

$$\frac{62\ 000}{60\ 100}$$

52. The following are the dynamic aspects of demography, which ones are NOT?
- (a) Fertility
 - (b) Sex
 - (c) Migration
 - (d) Mortality
 - (e) Nuptiality
53. Population changes is determined by the following parameters. Which one is NOT
- (a) Out Migration ✓
 - (b) Mortality ✓
 - (c) Marriage
 - (d) In migration ✓
 - (e) Fertility ✓
54. The probability that a woman will conceive during her menstrual cycle is defined by one of the following. Which ONE is it?
- (a) Fecundity
 - (b) Fertility
 - (c) Natality
 - (d) Copulation
 - (e) Fecundability
55. Which of the following defines fetal death ratio?
- (a) Number of fetal deaths divided by number of births
 - (b) Number of fetal deaths divided by number of births plus number of fetal deaths
 - (c) Number of fetal deaths divided by neonatal deaths
 - (d) Number of fetal deaths divided by the number of women of reproductive age
 - (e) Number of fetal deaths divided by pregnant women population
56. Which of the following practices is CORRECT with regard to appropriate feeding of infants and young children?
- (a) Infants 6-8 months should be fed 2-3 small nutritious meals per day
 - (b) Breastfeeding frequency should be reduced after introduction of complementary foods.
 - (c) Breastfeeding should be initiated within the first 2 hours after delivery
 - (d) In very hot climate, water should be given in addition to breast milk birth – 6 months
 - (e) Mothers who are HIV positive should be advised to avoid breastfeeding to minimize chances of transmitting the virus to their infants
57. Which of the following strategies is LEAST LIKELY to lead to improvement in maternal nutrition status?
- (a) Birth spacing of 3 years or longer
 - (b) Reduction of malaria infection in endemic areas
 - (c) Adequate micronutrient intake during pregnancy and lactation
 - (d) Proper management of Pica during pregnancy
 - (e) Reduced maternal workload during pregnancy

58. All **EXCEPT ONE** are useful strategies in the prevention and control of iron deficiency anaemia among pregnant mothers
- (a) Avoiding consumption of tea/coffee with meals
 - (b) Consumption of sea foods
 - (c) Consumption of citrus fruits/juice with meals
 - (d) Avoiding consumption of foods high in goitrogens
 - (e) Provision of iron/folate supplements to pregnant women
59. During history taking, risk factors that would necessitate a more comprehensive nutritional assessment in a patient include all the following **EXCEPT**:
- (a) Body weight below 90% or more than 130% of expected weight
 - (b) Recent unintentional weight loss
 - (c) Chronic ill health
 - (d) Chronic drug use
 - (e) Loss of appetite
60. Globally, the most widespread micronutrient disorder is:
- (a) Iron deficiency anaemia
 - (b) Iodine deficiency
 - (c) Protein energy malnutrition
 - (d) Vitamin A deficiency
 - (e) Vitamin D deficiency

SECTION II: SHORT ANSWER QUESTIONS (SAQs)

1. Explain using examples, the role of diet and lifestyle in the causation of nutrition related chronic diseases. [5 marks]
2. The sex ratio at birth in Uganda is 1.08. What proportion of births are females; What percentage are males? [5 marks]
3. The Division of Family Health at the central level Ministry of Health has six units. Name five of them. [5 marks]
4. Explain why profit must be the inevitable incentive for private practice in the delivery of health care. [5 marks]
5. Define the term communication and describe five components of effective communication. [5 marks]
6. Describe indications for monitoring of industrial hygiene and safety in a cement factory. [5 marks]
7. Name two parasites and three genera of bacterial with potential to cause food borne disease. [5 marks]
8. Select a cultural practice and describe briefly the impact on health. [5 makers]
9. Using a schematic diagram, illustrate the concept of "commonality of risk factors of non-communicable diseases" [5 marks]
10. Briefly describe the five (5) care management functions of a newly appointed Medical Officer of Health in charge of a county hospital. [5 marks]
11. For each of the following, calculate a frequency measure of disease and identify what type of measure it is:-
 - (a) 2000 babies were born at a hospital during one year, of these 70 had a congenital defect. [2 marks]
 - (b) In a city with an average population of 1,200,000 people, there were 18 new diagnoses of HIV infection in a one year period. [2 marks]
 - (c) 100 people attended a barbeque lunch and the following day 24 experienced nausea and vomiting. [1 marks]

SECTION III: LONG ANSWER QUESTIONS (LAQs)

1. The following data were collected during a community diagnosis.

		Diarrhoea in the last two weeks	
		Yes	No
Main Water Source	Tap	15	35
	Spring	25	42
	River	30	40

- (a) In your opinion, what is the null hypothesis? [4 marks]
- (b) Write down the null hypothesis. [3 marks]
- (c) Write down the alternative hypothesis. [2 marks]
- (d) Carry out the appropriate hypothesis. [9 marks]
- (e) What is your conclusion? [2 marks]

Note: $\chi_{.95}^2(2) = 5.991$ $\chi_{.975}^2(2) = 7.378$

2. (a) Define a health system. [2 marks]
- (b) Using a diagram, describe the core building blocks that make-up a health system. [10 marks]
- (c) Borrowing from the concept of scientific management, briefly describe four steps you would take to improve service delivery in a hospital setting. [8 marks]
3. Discuss the importance of appropriate nutrition during adolescence, highlight the critical nutrients and eating disorders. [20 marks]