**KEPI & IMMUNOLOGY:**

1. The diluents for pentavalent vaccine during its preparation for vaccination is called:
2. Hepatitis B.
3. Haemophilus influenza type B.
4. Tetanus toxoid.
5. Tritantrix hepatitis B.

1. Vaccine waste factor is calculated by the following formula:
2. Total amount of vaccines in open vials plus total used.
3. One hundred divide by one hundred minus wastage rate.
4. One hundred plus one hundred plus total vaccines used.
5. Total amount of vaccines in stock minus the used vaccine.
6. Which of the following explains the policy of immunizing a sick child:
7. All Immunize all sick children with pentavalent because it is combined vaccine.
8. Do not immunize any sick child.
9. Hold immunization for very sick children and treat.
10. Children who are sick should be immunized at first contact.
11. Indicate which of the following statements is TRUE or FALSE:
12. Immunization coverage is the total vaccine given to each child in an area
13. Child health card can be used to survey immunization coverage in a community
14. The normal reaction of BCG vaccination after two weeks following injection is:
15. Formation of an ulcerated wound.
16. Formation of a wheel.
17. Formation of a nodule.
18. Formation of a pustule.
19. National immunization days help to achieve which type of immunity:
20. Non-specific immunity.
21. Innate immunity.
22. Herd immunity.
23. Passive immunity.
24. KEPI as a primary health care element was launched in all directs in Kenya in the year:
25. 1972.
26. 1980.
27. 1986.
28. 1906.
29. Which of the following is not a feature of a district KEPI micro plan:
30. Targeted population and the available antigens or expected antigens.
31. Immunization coverage and record keeping.
32. Vaccine waste factor and the cold chain.
33. Vaccine drop outs and disease.
34. Immunization of women of reproductive age is started at:
35. The age of 20 years.
36. The age of first pregnancy.
37. The age starting 15 years.
38. The age at first delivery.
39. Humoral immunity is the type of immunity synonymous to:
40. Cell mediated immunity.
41. Antibody immunity.
42. Innate immunity.
43. Non-specific immunity.
44. A child comes at 10 weeks of age for second dose of pentavalent vaccine. What dose of PCV vaccine should he get?
    1. Pneumo 1.
    2. Pneumo 3.
    3. Pneumo 2.
    4. None at all.
45. Who are at the most risk of getting pneumococcal disease:
    1. Pregnant women.
    2. Adults over 5 years.
    3. Children aged 15-40 years.
46. Child development can be assessed from the following:
    1. Motor development, language, social behavior.
    2. Motor development, nutritional status, language.
    3. Motor development, age at which he walks language.
    4. Language, nutritional status, social behavior.
47. When arranging vaccines according to their sensitivity to heat should be:
    1. Tetanus toxoid, pentavalent, polio, BCG, measles.
    2. Measles, BCG, pentavalent, tetanus toxoid, polio.
    3. Pentavalent, tetanus toxoid, polio, measles, BCG.
    4. Pentavalent, tetanus toxoid, BCG, measles, polio.
48. Artificial passive immunity is acquired through:
    1. Getting the actual disease.
    2. Getting into contact with antibodies from breast milk.
    3. Inoculation with prepared antibodies.
    4. Inoculation with prepared antigens.
49. The following are the rules for maintaining the cold chain:
    1. Order the amount of vaccines needed, discard the opened vaccine after 4 hours, distribute the vaccines efficiently.
    2. Defrost the refrigerator every week, distribute the vaccines efficiently, and keep the vaccines cold and away from sunlight.
    3. Keep vaccines cold and away from sunlight, distribute the vaccines efficiently, and lock after the equipment.
    4. Order the amount of vaccines needed, keep vaccines cold and away from sunlight, distribute the vaccines efficiently.
50. Missed opportunities in immunization can be reduced by:
    1. Conducting survey monthly to measure missed opportunities, ensuring that children admitted to hospitals are immunized on admission.
    2. Examining healthy facility records and immunization cards to identify missed opportunities, changing immunization schedule to fit community needs.
    3. Ensuring that those children that are sick enough to be admitted are followed and immunized at home, conducting surveys to measure missed opportunities.
    4. Avoiding false contraindication to immunization, ensuring that all eligible women and children have immunization cards which are checked at every visit.
51. A pregnant mother who has fully immunized with tetanus toxoid during the first pregnancy will get tetanus toxoid immunization as follows:
    1. One tetanus toxoid injection as soon as she is diagnosed to be pregnant.
    2. Two tetanus toxoid injection with 2 weeks interval between the first trimesters of pregnancy.
    3. Three tetanus toxoid injection within 4 weeks interval between 3rd trimesters of pregnancy.
    4. Two tetanus toxoid injection within 4 weeks interval between them as soon as the pregnancy is diagnosed.
52. Cytokines are:
    1. Soluble proteins acting as messengers in immune process.
    2. Chemical in the body that kill micro-organisms.
    3. Molecules that when given to a person stimulates immunity.
    4. Substances that prevents hypersensitivity reaction.
53. The activities of cytotoxic T cells include:
    1. Play part in phagocytosis.
    2. Provide cell mediated immunity.
    3. Destroy abnormal cells in the body.
    4. Produce macrophages and interferon working in immune system.
54. The cells that are participating in cell mediated immunity are;
    1. B lymphocytes.
    2. T lymphocytes.
    3. Plasma cells.
    4. T helper cells.
55. The autoimmune reaction is;
    1. Passive naturally acquired immunological process.
    2. Immunological process against own cells.
    3. Actively artificially acquired immunological process.
    4. Developing innate immunological process.
56. The antigen that cause reaction in pentavalent vaccine is:
    1. Tetanus toxoid.
    2. Diphtheria toxoid.
    3. Haemophyllus.
    4. Dead pertusis.
57. The following vaccines can be frozen at regional stores:
    1. BCG, tetanus and polio.
    2. Measles, polio and BCG.
    3. Polio, pentavalent and measles.
    4. Pentavalent, polio and tetanus.

1. The supply period in vaccine forecasting for a district is:
   1. 1 month.
   2. 3 months.
   3. 1 year.
   4. 6 months.
2. The dosage of BCG for child coming for the first time to the clinic at 9 months is;
   1. 0.05mls given intradermally.
   2. 0.5mls given subcutaneously.
   3. 0.1mls given subcutaneously.
   4. 0.01mls given intradermally.
3. The acceptance wastage rate of pentavalent vaccine is;
   1. Less than 5%.
   2. Less than 50%.
   3. Less than 20%.
   4. Less than 15%.
4. In standard case definition of measles the signs are:
   1. Cough loss of appetite and vomiting.
   2. Rash, fever and cough.
   3. Difficulty in breathing, rash and fever.
   4. Yellow eyes, stiffness of body and fever.
5. Reconstituted B.C.G vaccine should be discarded after:
   1. 3 hours.
   2. 5 hours.
   3. 2 hours.
   4. 6 hours.
6. The 3rd tetanus toxoid dose for post traumatic vaccination should be given :
   1. At first contact within 7 days of the 2nd tetanus toxoid.
   2. 1 month after 2nd tetanus toxoid vaccine.
   3. 6 months after 2nd tetanus toxoid vaccine.
   4. 1 year after 2nd tetanus toxoid vaccine.
7. Which of the following is NOT required in the steps of estimating the amount of vaccines to order?
   1. Calculating the target.
   2. Calculating the size of the total population.
   3. Calculating the expected coverage.
   4. Calculating the number of doses given previously.
8. State whether true or false
9. Reconstituted pentavalent should be used within 24hours………….
10. Tetanus toxoid should only be given to pregnant mothers…………...
11. The temperature at which pentavalent vaccine should be stored is 0-8oC…………………
12. When tetanus toxoid vaccine is damaged immediately on shaking the vaccine appears smooth and cloudy……………………
13. The three strains of polio virus that cause poliomyelitis are :
14. ………………………………
15. ………………………….
16. ……………………………

**SAQ’s**

1. List the four (4) factors that influence vaccine wastage in un-open vials.
2. State three types of vaccines used in Kenya.
3. State five(5) clinic based KEPI records
4. State the immunization schedule for primary vaccine in Kenya
5. Explain how an individual can acquired immunity
6. State five(5) ways in which a nurse can maintain cold chain during vaccination session
7. Explain the following terms used in immunology
8. Passive immunity
9. Artificial immunity
10. Natural immunity
11. Antigen
12. Illustrate the immunization for the under 5years old.
13. State four(4) principles of KEPI
14. Outline three(3) components of cold chain
15. List the schedule for tetanus toxoid vaccination of women of child bearing age
16. Explain BCG Vaccine reaction and precaution to be taken after administration
17. State five (5) factor to consider in multidose vaccine vial policy
18. State 4 reasons why a child may suffer from measles even though immunized
19. State5 factors that influence normal growth and development in children
20. Explain the methods used to maintain potency of vaccines at the MCH clinic
21. State 5 goals of maternal and child health services
22. Explain how you will order vaccines from the KEPI store at the district hospital to: Your MCH clinic
23. Describe any 3 refrigerator accessories
24. As a nurse at the immunization clinic a child X aged 3 years comes for immunization for the first time. Describe the immunizations you give and subsequent immunizations.
25. List KEPI principles

**LAQs**

1. You are the public Health Nurse in charge of KEPI in a new district:

a) State the vaccine ordering procedure indicating the supply period for each level

b) Explain the principles of KEPI that can be used in this District to enhance immunity coverange

c) Describe the vaccination procedure that can be undertaken for a child presenting at four months of age for the first time.

1. Master soy aged 3 years who has never had any immunization is brought to MCH clinic by the mother and is diagnosed with malaria.

a. State the immunization he would receive

b. Explain the health messages that would be shared with Master Soy’s mother in regard with immunization

c. Explain how the leukocytes provides body defense mechanism

1. You are the in charge of District X where immunization coverage last year was a 50%
   1. Explain how to develop KEPI micro plain for this district.
   2. State the immunization procedure that can be implemented to motivate clients to the immunization services.
   3. The District X has a total population of 60000 thousand people.
2. Calculate the target population for KEPI vaccines
3. Calculate the doses of pentavalent vaccines required for 3 months supply period.
   1. Explain the strategies that will be put in place to improve immunization coverage: District X
4. As a newly qualified registered community health nurse posted to a district hospital as the in charge. After orientation you realize there is low immunization coverage
   1. How can you calculate the immunization coverage?
5. State 4 contributing factors to low immunization
6. Describe the measures that you will take to achieve high immunization coverage in this area
7. Briefly explain the current immunization schedule in Kenya.