*** Choose the correct alternative from those given below question** [14]

1. Diseases can be broadly grouped into communicable and non-communicable diseases. From the options given below, identify the non-communicable diseases.
   (i) Typhoid
   (ii) Asthma
   (iii) Diabetes
   (iv) Measles
   (A) (i) and (ii) (B) (ii) and (iii) (C) (i) and (iv) (D) (ii) and (iv)

   Ans. : (B) (ii) and (iii)

2. What is the primary definition of health according to the World Health Organization (WHO)?
   (A) Absence of disease
   (B) Complete physical, mental, and social well-being
   (C) Regular exercise and diet
   (D) Freedom from stress

   Ans. : (B) Complete physical, mental, and social well-being

3. Which of the following is a communicable disease?
   (A) Diabetes (B) Asthma (C) Chickenpox (D) Cancer

   Ans. : (C) Chickenpox

4. What is the main cause of antibiotic resistance?
   (A) Overuse of vaccines (B) Indiscriminate use of antibiotics
   (C) Lack of exercise (D) Poor diet

   Ans. : (B) Indiscriminate use of antibiotics

5. Which activity can help prevent dengue?
   (A) Eating junk food (B) Removing standing water
   (C) Increasing screen time (D) Skipping meals

   Ans. : (B) Removing standing water

6. Who discovered the first antibiotic, penicillin?
   (A) Edward Jenner
   (B) Alexander Fleming
   (C) Dr. Kamal Ranadive
   (D) Dr. Maharaj Kishan Bhan

   Ans. : (B) Alexander Fleming

7. Assertion (A) : Non-communicable diseases are increasing in India.
Reason (R) : Lifestyle changes, such as eating processed food and a lack of exercise, contribute to these diseases.

(A) Both (A) and (R) are true, and (R) is the correct explanation of (A).

(B) Both (A) and (R) are true, but (R) is not the correct explanation of (A).

(C) (A) is true, but (R) is false.

(D) (A) is false, but (R) is true.

Ans.: (A) Both (A) and (R) are true, and (R) is the correct explanation of (A).

8. Assertion (A): Antibiotics should be used only when prescribed by a doctor.
Reason (R): Overuse of antibiotics can lead to antibiotic resistance.

(A) Both (A) and (R) are true, and (R) is the correct explanation of (A).

(B) Both (A) and (R) are true, but (R) is not the correct explanation of (A).

(C) (A) is true, but (R) is false.

(D) (A) is false, but (R) is true.

Ans.: (A) Both (A) and (R) are true, and (R) is the correct explanation of (A).

9. Which of the following best describes a healthy lifestyle according to the document?

(A) Eating fast food daily

(B) Regular exercise and a balanced diet

(C) Spending excessive time on screens

(D) Skipping meals regularly.

Ans. : self

10. What type of disease is caused by a pathogen transmitted by mosquitoes?

(A) Diabetes (B) Dengue (C) Asthma (D) Heart disease

Ans. : self

11. Who is credited with the discovery of the first vaccine?

(A) Alexander Fleming

(B) Edward Jenner

(C) Dr. Kamal Ranadive

(D) Dr. Maharaj Kishan Bhan

Ans. : self

12. What are common symptoms of high blood pressure?

(A) Frequent urination

(B) Headaches

(C) Weight gain

(D) Slow healing

Ans. : self

13. Assertion (A): Regular exercise can help prevent obesity.
Reason (R): Exercise burns calories and improves metabolism.

(A) Both (A) and (R) are true, and (R) is the correct explanation of (A).

(B) Both (A) and (R) are true, but (R) is not the correct explanation of (A).

(C) (A) is true, but (R) is false

(D) (A) is false, but (R) is true.

Ans. : self

14. Assertion (A): Antibiotics should not be used for viral infections.
Reason (R): Antibiotics target bacterial cells, not viruses.

(A) Both (A) and (R) are true, and (R) is the correct explanation of (A).

(B) Both (A) and (R) are true, but (R) is not the correct explanation of (A).

(C) (A) is true, but (R) is false.

(D) (A) is false, but (R) is true.

Ans. : self

*** Fill in the blanks:** [7]

15. The natural ability of our body to fight diseases is known as _____

Ans. : Immunity

16. _____ is a non-communicable disease caused by a lack of specific nutrients in the diet.

Ans. : Scurvy

17. Vaccines provide _____ immunity by training the immune system.

Ans. : Acquired

18. The immune system helps the body fight diseases by producing _____

Ans. : self

19. _____ is a non-communicable disease linked to hormonal imbalances and inactivity.

Ans. : self

20. _____ resistance occurs when bacteria survive antibiotic treatment.

Ans. : self

21. In Ayurveda, _____ is a seasonal routine to maintain health balance.

Ans. : self

*** Answer the following questions in short.** [50]

22. Group the diseases shown in the images as communicable or non-communicable.

Cold and flu

Typhoid

Diabetes

Asthma

Chickenpox

Ans. : Communicable Diseases
• Cold and Flu
• Typhoid Chickenpox
Non-communicable Diseases
• Diabetes
• Asthma

23. Imagine you are in charge of a school health campaign. What key messages would you use to reduce communicable and non-communicable diseases?

Ans. : Key messages for a school health campaign to reduce communicable and non-communicable diseases include washing hands regularly, eating a healthy diet, exercising daily, getting vaccinated, and avoiding smoking.

24. It is recommended that we not take an antibiotic for a viral infection like a cold, a cough, or the flu. Can you provide the possible reason for this recommendation?

Ans. : The recommendation to avoid antibiotics for a viral infection like a cold, cough, or flu is because antibiotics do not work on viruses, which cause these illnesses.

25. Which disease(s) among the following may spread if drinking water gets contaminated by the excreta from an infected person?
Hepatitis A, Tuberculosis, Poliomyelitis, Cholera, Chickenpox.

Ans. : The diseases that may spread if drinking water gets contaminated by the excreta from an infected person are Hepatitis A, Poliomyelitis, and Cholera.

26. Explain how stress can affect your health.

Ans. : Stress weakens the immune system by releasing hormones like cortisol, making you more prone to infections like colds. It can also lead to high blood pressure, insomnia, and contribute to non-communicable diseases like diabetes due to poor sleep and diet habits.

27. Describe two ways to prevent the spread of the flu.

Ans. : Cover your mouth and nose with a tissue or elbow when coughing or sneezing to prevent droplet spread, and wash your hands frequently with soap to remove germs.

28. What are the signs and symptoms of diabetes?

Ans. : Signs and symptoms of diabetes include frequent urination, excessive thirst, weight loss, tiredness, and slow healing of wounds.

29. How can a clean environment improve health?

Ans. : A clean environment reduces pathogens and vectors like mosquitoes, preventing diseases such as dengue and diarrhoea. It also improves air quality, reducing respiratory issues like asthma, as noted in the document.

30. Explain the role of the immune system in fighting diseases.

Ans. : The immune system protects the body by identifying and destroying pathogens like bacteria and viruses using white blood cells and antibodies. It provides natural immunity and can be enhanced by vaccines for acquired immunity.

31. Why is it important to use antibiotics wisely?

Ans. : Using antibiotics wisely prevents antibiotic resistance, where bacteria survive treatment and become harder to kill. This ensures antibiotics remain effective for future bacterial infections, as overuse can lead to severe health risks.

32. A student notices many classmates are absent due to a flu outbreak.
Q.1. What immediate actions should the school take?
Q.2. How can the student protect themselves?

Ans. : 1. The school should close temporarily, sanitize classrooms, and encourage sick students to stay home to prevent further spread.
2. The student can wash hands frequently, avoid close contact with sick classmates, and wear a mask in school.

33. A family plans to travel to a malaria-prone area.
Q.1. What precautions should they take before and during the trip?
Q.2. Why are mosquito nets important in this context?

Ans. : 1. Before the trip, they should use mosquito repellent, get vaccinated if available, and carry nets. During the trip, they should wear long sleeves and sleep under nets.
2. Mosquito nets protect against malaria by blocking mosquito bites, which transmit the parasite, reducing infection risk.

34. A friend claims eating fast food daily is harmless.
Q.1. What health risks can you explain to them?
Q.2. Suggest two lifestyle changes to reduce these risks

Ans. : 1. Eating fast food daily can lead to obesity, diabetes, and heart disease due to high sugar and fat content, as warned in the document.
2. They can switch to a balanced diet with fruits and vegetables and start exercising regularly to maintain a healthy weight.

35. Define health in one sentence.

Ans. : self

36. Name one vector that spreads diseases.

Ans. : self

37. Name one deficiency disease mentioned in the document.

Ans. : self

38. What is the purpose of pranayama?

Ans. : self

39. Explain two benefits of maintaining personal hygiene.

Ans. : self

40. How does the Odisha sanitation campaign impact child health?

Ans. : self

41. Why is it important to limit screen time?

Ans. : self

42. Explain how communicable diseases spread and suggest three preventive measures.

Ans. : self

43. Discuss the role of traditional medicine like Ayurveda in maintaining health, with examples.

Ans. : self

44. Analyze the significance of Edward Jenner's smallpox vaccine and its impact on global health.

Ans. : self

45. A student feels tired and thirsty all the time and visits a doctor.
    (a) What disease might the doctor suspect?
    (b) What lifestyle changes should the student follow?

Ans. : self

46. A community notices an increase in dengue cases after heavy rains.
    (a) What environmental factor is likely contributing to this?
    (b) Suggest two community actions to reduce the spread

Ans. : self

*** State whether the following sentences are true or false. Correct the false sentences and rewrite them.** **[9]**

47. All diseases are caused by infections.

Ans. : false

48. Vaccines can cure diseases before a person becomes sick.

Ans. : false

49. Clean surroundings can reduce the spread of communicable diseases.

Ans. : true

50. Antibiotics are effective against viral infections like the flu.

Ans. : false

51. Stress can negatively affect both mental and physical health.

Ans. : true

52. Non-communicable diseases can spread from one person to another.

Ans. : self

53. Vaccines are effective against bacterial infections after they occur.

Ans. : self

54. A clean playground reduces the risk of vector-borne diseases.

Ans. : self

55. Stress has no impact on the immune system.

Ans. : self

*** Answer the following questions in short.** **[48]**

56. How does your body respond to an infection such as the common cold?

Ans. : The body responds to a common cold (caused by viruses) through the immune system. Symptoms like a runny nose, sore throat, or cough occur as the body fights the infection. The immune system produces antibodies to neutralize the virus, and white blood cells attack infected cells. Rest, hydration, and sometimes medication (e.g., for fever) help recovery.

57. We rarely see cases of smallpox or polio these days, but diseases like diabetes and heart problems are more common. Why?

Ans. : Smallpox and polio have been nearly eradicated due to widespread vaccination programs (e.g., Edward Jenner's smallpox vaccine, polio vaccines). In contrast, non-communicable diseases (NCDs) like diabetes and heart problems are increasing due to modern lifestyle factors such as unhealthy diets (e.g., processed and junk foods like pizza, burgers, etc.), lack of exercise, stress, and longer life expectancies.

58. Could climate change lead to new types of diseases?

Ans. : Yes, climate change can lead to new or increased disease risks. Warmer temperatures and changing weather patterns can expand the range of disease-carrying vectors like mosquitoes (e.g., malaria, dengue), alter water quality, and create conditions for new pathogens to emerge or spread more easily.

59. How do emotions like stress or worry affect us and make us sick?

Ans. : Stress or worry can weaken the immune system by releasing hormones like cortisol, making the body more susceptible to infections (e.g., colds). Chronic stress can also contribute to non-communicable diseases like high blood pressure or diabetes by affecting sleep, diet, and mental health.

60. Why do some groups of people get affected more than others during disease outbreaks?

Ans. : Some groups are more affected due to factors like weaker immunity (e.g., children, elderly), poor living conditions (e.g., lack of sanitation), malnutrition, or preexisting health issues. Social factors, such as crowded living spaces or limited healthcare access, also increase vulnerability.

61. There is a flu outbreak in your school. Several classmates are absent, while some are still coming to school coughing and sneezing.
    1. What immediate actions should the school take to prevent further spread?
    2. If your classmate, who shares the bench with you, starts showing symptoms of the flu, how can you respond in a considerate way without being rude or hurtful?
    3. How can you protect yourself and others from getting infected in this situation?

Ans. : 1. The school should close temporarily, sanitise classrooms, and encourage sick students to stay home to prevent further spread.
2. You can politely suggest that your classmate see a doctor and take a rest at home, and offer to share notes with them.
3. To protect yourself and others, wash your hands frequently, avoid close contact, and wear a mask.

62. Your family is planning to travel to another city where malaria is prevalent.
    1. What precautions should you take before, during, and after the trip?
    2. How can you explain the importance of mosquito nets or repellents to your sibling?
    3. What could happen if travellers ignore health advisories in such areas?

Ans. : 1. To protect our family from malaria during travel, focus on preventing mosquito bites and taking prescribed preventative medication.
• Before travel, consult a doctor, get necessary vaccinations, and pack mosquito repellent and protective clothing.
• During the trip, continue using repellent, wear long sleeves and pants, and sleep under mosquito nets.
• After returning, monitor for any symptoms like fever, and seek immediate medical attention if they occur.
2. Explain to your sibling that mosquitoes spread malaria and that nets or repellents protect by blocking bites.
3. If travellers ignore health advisories in such areas, they risk malaria infection, severe illness, or even death.

63. Your uncle has started smoking just to fit in with his friends, even though it is well known that smoking can seriously harm health and even cause death.
    1. What would you say to him to make him stop, without being rude?
    2. What would you do if your friend offered you a cigarette at a party?
    3. How can schools help prevent students from indulging in such harmful habits?

Ans. : 1. Dear Uncle, I care about your health and well-being, and I want to talk to you about smoking. It's well-known that smoking can lead to serious health issues, including heart disease and lung cancer. Quitting smoking can greatly improve your health and quality of life.

2. Politely decline the cigarette at the party and explain the health risks to your friend.

3. Schools can help prevent students from indulging in such habits by educating them about the health risks and organizing awareness programs regularly.

64. What was the cause of the boy's health problems?

Ans. : The boy's health problems were caused by a combination of loneliness, lack of social support (due to busy parents and no friends), and excessive screen time. His isolation and reliance on social media worsened his mental state, leading to physical symptoms like headaches, weight loss, and insomnia. The absence of a supportive environment and healthy coping mechanisms contributed significantly.

65. Look at Fig. (a) and Fig. (b). Which playground would you like to play in, and why?

(a)

(b)

Two different playgrounds

Ans. : Preferred Playground: Most students would prefer to play in the playground shown in Fig. (a).

Reason:

• The text describes Fig. (a) as clean, well-maintained, and beautiful, making it a safe and enjoyable place to play.

• In contrast, Fig. (b) is described as polluted, dirty, unhygienic, and full of flies and

mosquitoes, which can increase the risk of sickness and make it unpleasant.

• A clean environment, as highlighted in the text, supports health by reducing exposure to pathogens and pollutants, aligning with the chapter's emphasis on environmental health.

66. Discuss the differences between communicable and non-communicable diseases, providing examples from the document.

Ans. : Communicable diseases are caused by pathogens like bacteria or viruses and spread from person to person (e.g., typhoid, chickenpox, COVID-19). Non-communicable diseases (NCDs) are not contagious and result from lifestyle, genetics, or environment (e.g., diabetes, cancer, asthma), with the document highlighting their rise in India due to processed food and inactivity. Communicable diseases require hygiene and vaccines for prevention, while NCDs need lifestyle changes like diet and exercise.

67. Explain how lifestyle changes can prevent non-communicable diseases like diabetes and obesity.

Ans. : Lifestyle changes can prevent diabetes and obesity by promoting a balanced diet rich in fruits and vegetables, reducing processed and sugary foods. Regular exercise, such as walking or cycling, helps maintain a healthy weight and improves insulin sensitivity, lowering diabetes risk. Limiting screen time, managing stress with yoga, and avoiding tobacco or alcohol also reduce these conditions, as supported by the document's healthy habit recommendations.

68. Describe the process of how vaccines work to protect against diseases, including historical examples.

Ans. : Vaccines work by introducing a weakened, dead, or harmless part of a pathogen into the body, training the immune system to recognize and fight it, providing acquired immunity. For example, Edward Jenner's smallpox vaccine used cowpox to prevent smallpox, leading to its global eradication. India's traditional variolation also built immunity against smallpox, showing historical efforts that saved millions through vaccination.

69. Analyze the impact of the Odisha community sanitation campaign and suggest similar initiatives for your area.

Ans. : The Odisha campaign in Bhadrak reduced open defecation by building toilets, improving child health with fewer diarrhoea cases, and proving sanitation's role in preventing communicable diseases. For my area, a similar initiative could involve a local cleanup drive to remove stagnant water, reducing mosquito-borne diseases like dengue, and a school-led toilet construction project to enhance hygiene, engaging the community for sustained impact.

70. Explain the discovery of penicillin and its significance in treating bacterial infections, including the issue of antibiotic resistance.

Ans. : Alexander Fleming discovered penicillin in 1928 when he noticed mould killing bacteria on a petri dish, marking the first antibiotic. It revolutionized treatment by effectively killing bacterial infections, saving millions of lives. However, overuse has led to antibiotic resistance, where bacteria survive treatment, making infections harder to cure. Wise use, as prescribed by doctors, is crucial to maintain its effectiveness.

71. What do you infer from this case study?

Ans. : -The case study shows that improving sanitation, such as building and using toilets, can greatly reduce open defecation and improve health, especially for children. The significant drop in diarrhoea and infections suggests that clean sanitation prevents the spread of communicable diseases caused by pathogens in contaminated environments (e.g., through water or soil)

-It highlights the importance of community effort and simple measures, aligning with the document's emphasis on hygiene and clean surroundings as key to disease prevention.

-Inference: Better sanitation directly enhances physical health by reducing exposure to disease-causing agents, supporting the WHO definition of health as physical well-being.

*** Answer the following questions in details [4 marks]** **[20]**

72. Saniya claims to her friend Vinita that "Antibiotics can cure any infection, so we don't need to worry about diseases." What question(s) can Vinita ask her to help Saniya understand that her statement is incorrect?

Ans. : Why Saniya's Statement is Wrong:

• Antibiotics only work against bacterial infections, not viral ones like the flu or common cold.

• Overuse or misuse of antibiotics can lead to antibiotic resistance, making them less effective in the future.

• Some diseases are caused by fungi, protozoa, or viruses, which require different treatments.

Vanita can ask Saniya, Did you know that antibiotics don't work on viruses like the flu or measles? They're only useful for bacterial infections. Also, if we take antibiotics when we don't need them, they might stop working when we really do. That's why doctors are careful about prescribing them."

73. The following table contains information about the number of dengue cases reported in a hospital over one year:

S. No.	1	2	3	4	5	6
Month	January	February	March	April	May	June
No. of dengue cases	10	12	15	18	22	40

S. No.	7	8	9	10	11	12
Month	July	August	September	October	November	December
No. of dengue cases	65	65	65	30	30	20

Make a bar graph of the number of cases on the Y-axis and the month on the X-axis. Critically analyse your findings and answer the following:

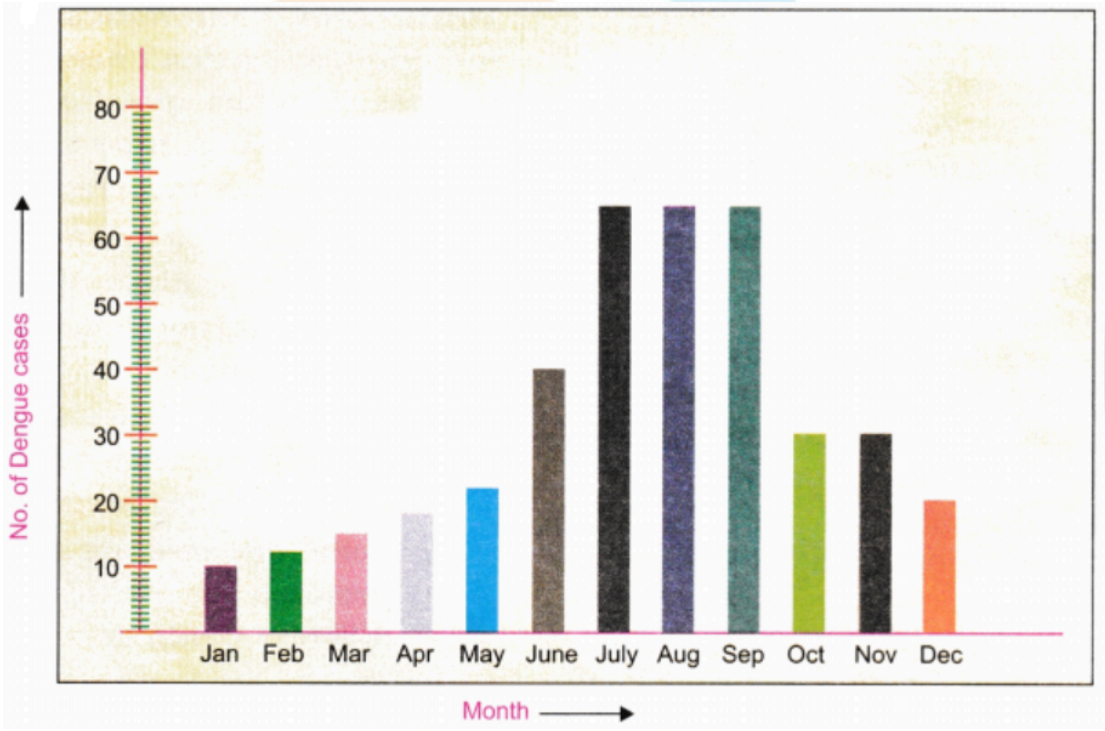
Q.1. In which three months were the dengue cases highest?

Q.2. In which month(s) were the cases lowest?

Q.3. What natural or environmental factors during the peak months might contribute to the increase in dengue cases?

Q.4. Suggest a few preventive steps that the community or government can take before the peak season to reduce the spread of dengue.

Ans. :



1. The dengue cases were highest in July, August, and September.
2. The cases were lowest in January.
3. Natural or environmental factors during the peak months, such as the rainy season and standing water for mosquito breeding, might contribute to the increase in dengue cases.
4. The community or government can take preventive steps like removing stagnant

water, using mosquito nets, and spraying insecticides during this period regularly to reduce the spread of dengue.

74. When our body encounters a pathogen for the first time, the immune response is generally low, but on exposure to the same pathogen again, the immune response by the body is much more compared to the first exposure. Why is it so?

Ans. : When our body faces a pathogen (like a virus or bacteria) for the first time, our immune system needs time to:

• Identify the invader
• Create specific antibodies
• Build memory cells that remember the pathogen

This first reaction is called the primary immune response, and it's usually slow and weak.

When the same pathogen enters our body again:

• Our memory B cells quickly produce the correct antibodies
• Our memory T cells help destroy infected cells faster

This is called the secondary immune response, and it's faster, stronger, and more effective.

75. How did his habits and surroundings affect his well-being?

Ans. : • Habits: Spending excessive time on his phone and social media increased his loneliness and stress, disrupting his sleep and mental health. Avoiding social interaction further isolated him, impacting his emotional well-being.

• Surroundings: Moving to a new city with no friends and busy parents created an unsupportive environment, exacerbating his feelings of isolation. The lack of a social network and guidance affected both his mental and physical health negatively.

• Overall Impact: This led to a decline in his well-being, manifesting as physical symptoms (headaches, weight loss, sleeplessness) and emotional distress, aligning with the WHO definition of health as physical, mental, and social well-being.

76. Find out about such community campaigns held in your location. Share in your class and discuss with your peers about the impact of such initiatives.

Ans. : Finding Campaigns: (This depends on local context; example based on general knowledge and the document's focus on India):

• Example campaigns might include the Swachh Bharat Abhiyan (Clean India Mission), a nationwide initiative to improve sanitation by building toilets and promoting hygiene, similar to the Odisha campaign. Local efforts might involve village clean-up drives or water purification projects.

• Students should research through local news, school resources, or community leaders to identify specific campaigns in their area.

Sharing and Discussion:

Impact: Share that such campaigns reduce diseases like diarrhoea, cholera, and typhoid by improving access to clean water and toilets. For instance, the Odisha

campaign's success in lowering child infections shows how sanitation saves lives and reduces healthcare costs.

Discussion Points:

• How did the campaign change people's habits (e.g., using toilets instead of open areas)?

• What challenges might communities face (e.g., cost, awareness)?

• How can students contribute (e.g., spreading awareness, participating in clean-ups)?

• Example Contribution: "In my area, a clean-up drive reduced mosquito breeding, lowering dengue cases, similar to the Odisha impact."

*** Answer the following questions in on sentence** **[9]**

77. What is the WHO definition of health?

Ans. : Health is a state of complete physical, mental, and social well-being, not merely the absence of disease.

78. Name one communicable disease caused by a virus.

Ans. : Flu (Influenza).

79. What is the purpose of a vaccine?

Ans. : A vaccine trains the immune system to recognize and fight specific pathogens to prevent diseases.

80. Name one non-communicable disease linked to diet.

Ans. : Diabetes.

81. What is dinacharya in Ayurveda?

Ans. : Dinacharya is an Ayurvedic daily routine to maintain health through balanced habits like sleep and exercise.

82. Who discovered the smallpox vaccine?

Ans. : Edward Jenner.

83. What is a vector in the context of diseases?

Ans. : A vector is an organism, like a mosquito, that transmits pathogens causing diseases.

84. Name one good habit to maintain hygiene.

Ans. : Washing hands with soap regularly.

85. What causes antibiotic resistance?

Ans. : Overuse or misuse of antibiotics causes bacteria to survive and develop resistance.

*** Match the Following.** **[12]**

86.

Column A	Column B
Q.1. Typhoid	(a) Virus (Influenza)
Q.2. Dengue	(b) Bacteria (Salmonella typhi)
Q.3. Flu	(c) Virus (Varicella-zoster)
Q.4. Chickenpox	(d) Virus (transmitted by mosquito)

Ans. :

Column A	Column B
1. Typhoid	(b) Bacteria (Salmonella typhi)
2. Dengue	(d) Virus (transmitted by mosquito)
3. Flu	(a) Virus (Influenza)
4. Chickenpox	(c) Virus (Varicella-zoster)

87.

Column A	Column B
Q.1. Vaccination	(a) Dengue
Q.2. Removing Standing Water	(b) Polio
Q.3. Washing Hands	(c) Typhoid
Q.4. Wearing Masks	(d) COVID-19

Ans. :

Column A	Column B
1. Vaccination	(b) Polio
2. Removing Standing Water	(a) Dengue
3. Washing Hands	(c) Typhoid
4. Wearing Masks	(d) COVID-19

88.

Clounm A	Column B
Q.1. Typhoid	(a) Vaccination
Q.2. Dengue	(b) Washing Hands
Q.3. Flu	(c) Removing Standing Water
Q.4. chickenpox	(d) Wearing Masks
	(e) Using Monsquito Nets

Ans. : self

----- -----