***Assignment of “Biology” for class 9th”.***

**SESSION :2019-2020**

**TERM: 1ST**

Chapter no:-4 Diversity in living organisms:-

Non-Textual Questions

**Classification:** Classification of organisms may be defined as a system of arrangement of organisms into different groups or sub groups on the basis of their similarities, differences and relationships.

The systematic classification of organisms is known as taxanomy.

**Basis of classification:** Classification can be done on the following basis:

* Cells are prokaryotic or eukaryotic.
* Cells occur singly or in clusters.
* Organisms are autotrophs or heterotrophs.
* Body organization of organisms.

**System of classification:** R. H. Whittaker in1669, suggested the Five Kingdom Classification.

1. Monera
2. Protista
3. Fungi
4. Plantae
5. Animalia

1.Kingdom Monera: These organisms do not have a well-defined nucleus or organelles, nor do any of them show multicellular body design. E.g., unicellular algae, diatoms and protozoans.

2.Kingdom Protista: This group includes many kinds of unicellular eukaryotes. They may have cilia or flagella for moving around. E.g., amoeba and paramecium.

3. Kingdom Fungi: These are heterotrophic eukaryotic organisms that are saprophytes and thrive on decaying organic material. They have cell wall made up of chitin. E.g., yeast and mushroom.

4. Kingdom Plantae: These are multicellular eukaryotes with cell wall made up of cellulose. They are autotrophs and use chlorophyll for photosynthesis. All plants are included in this group. According to August W. Eichler plant kingdom is divided into two sub-kingdoms i.e., cryptogams and phanerogams.

**A**. **Cryptogams:** These are known as lower plants. The flowering seeds are absent and hence hidden reproductive organs are present. It is categorized into three divisions:

* Thallophyta: Thallophyta have a body which is not differentiated into stem, root and leaves. This kind of undifferentiated body is called thallus, hence, the name thallophytes.
* Bryophyta: Bryophytes are simple terrestrial plants. They have over 25,000 species. They live in damp and sandy habitats and hence they are called amphibians of the plant kingdom.
* Pteridophyta: They are the oldest vascular plants. The plant body is differentiated into roots, stem and leaves. They are seedless vascular plants and hence are called vascular cryptogams.

**B. Phanerogams:** They are seed bearing plants. The plant body is differentiated into true stem, leaves and roots. Visible sex organs are present. On the basis of fruit formation, they are classified into two sub-divisions:

* Gymnosperms: The term is derived from Greek words ‘gymno’ meaning ‘naked’ and ‘sperma’ meaning ‘seed’. The plants of the group bear naked seeds and are usually perennial, evergreen and woody.
* Angiosperms: The word is derived from two Greek words ‘angio’ meaning ‘covered’ and ‘sperma’ meaning ‘seed’. The seed develops inside an organ which is

modified to become a fruit. These are also called flowering plants. Angiosperms are of two types. They are as under:

a. Monocots: Monocots bear seeds which have a single cotyledon or seed leaf. The veins on their leaves are parallel to each other. E.g., rice, palms etc.

b. Dicots: The seeds in dicots have two cotyledons. The veins on their leaves are like a network. E.g., beans, grams etc.

5. Animalia: These include all eukaryotic, multicellular organisms without cell wall. They are heterotrophic.

**Basis of animal classification:**

* Body organization: Animals are multicellular but their body cells may or may not be recognized into tissue and organ system. E.g., human beings have organ system for performing body functions and are at the organ system level of organization.
* Symmetry: Symmetry means the possibility of dividing a body into equal and identical parts. E.g., cnidaria are radially symmetrical while as humans are bilaterally symmetrical.
* Body cavity: Body cavity or coelom is a cavity between the body wall and the food canal. It is absent in acoelomates and present in eu-coelomates. The body cavity of round worms is not true and is known as pseudo-coelom.
* Embryonic layers: There are three layers of cells in an embryo i.e., ectoderm (outer layer), mesoderm (middle layer) and endoderm (inner layer) which gives rise to body parts in animals. Animals may be either diploblastic (made of two layers) or triploblastic (made of three layers).
* Presence of notochord: The notochord is a stiff rod running along the body, close to the dorsal surface. The notochord helps to provide support to the animal body. All chordates possess a notochord at some stage of their development. The notochord is absent in non-chordates.

 The different phyla of the animal kingdom are as follows:

1. Porifera
2. Coelenterata (Cnidaria)
3. Platyhelminthes
4. Nematoda
5. Annelida
6. Arthropoda
7. Mollusca
8. Echinodermata
9. Hemichordata

 10. Chordata

**Binomial Nomenclature:** “Binomial nomenclature is the biological system of naming the organisms in which the name is composed of two terms, where, the first term indicates the genus and the second term indicates the species of the organism.” E.g., the scientific name of human species is Homosapiens; where the first name Homo is generic and the second name sapiens is specific.

**Textual Questions**.

**Qno1:-Why do we classify organisms?**

Ans: - In the living world there is a great deal of diversity. The millions of life forms (plants and animals) cannot be studied in a bulk, so classification makes the study of living forms systematic and easier. We also classify organisms due to following reasons.

**1. Organized study:-**Study of great variety of organisms becomes easy through classifications.

**2. Easy technique:-**Classification makes it easy to group organisms on different basis

**3. Universal communication:-**We can name organisms so that these can be studied under universal nomenclature through proper classification.

**4. Recognition: -** Classification makes it easy to recognize organisms according to their characteristics.

**5. Evolution: -** Helps to know about organic evolution.

**Qno2:-Give three examples of the range of variations that you see in life forms around you.**

Ans: - We see the following range of variations in life forms around us

1. **Colour variation: -** We see organisms of various colours around us. Such as many life forms are colourless or white or light coloured but others are bright coloured.

Earthworm is light coloured but butterfly is beautiful coloured.

1. **Size Variation:-**Various life forms are of various sizes which may be either so small to see from naked eye, likemicroorganisms or so big like elephant .Even dogs show different varieties in their colours and sizes
2. **Variation in life-span:-**We see variations in the life-span too.Some insects like mosquitoes have a life span of few days where as cows, human beingsetc. live for many years.

**Qno3:- Which do you think is a more basics characteristic for classifying organisms?**

1. **The place where they live.**
2. **The kind of cells they are made of, why?**

Ans: -It is (b) the kind of cells they are made of because the habitat cannot be the basic characteristic for classification .Many different types of organisms live in a place having lot of variation. So, they cannot be grouped as one. But cell is the basic structural and functional unit .On cellular level we can see some structural similarities and dissimilarities like presence of cell membrane,plastids, nucleus etc. and also some functions they perform So, cells are the basic characteristic for classification.

**Qno4:- What is the primary characteristic on which the first division of organisms is made?**

Ans: - The primary characteristic on which the first division of organismsis made is whether the organism is eukaryotic or prokaryotic and whether it is unicellular or multicellular.

**Qno5:-On what bases are plants and animals put into different categories?**

Ans: - Plants and animals are put in to different categories on the basis of their ability to produce food of their own. Plants (green) have an ability to prepare food by the process of photosynthesis but animals don’t have.Thereforetheir body designs have precise differences.

**Qno6:-Which organisms are called primitive and how are they different from the so-called advanced organisms?**

Ans:-Some groups of organisms have ancient body designs which have not changed much are called primitive organisms. These are older organisms and have simpler body design as compared to advanced organisms. Advanced organisms are those which have acquired their particular body designs relatively recently.

**Qno7:-Will advanced organisms be the same as complex organisms? Why?**

Ans: - Yes, advanced organisms will be the same as complex organisms because there is a possibility that complexity in body design will increase our evolutionary time. In that way younger (advanced) organisms are more complex than older (primitive) organisms.

**Qno8:-What is the criterion for classification of organisms as belonging to kingdom Monera or Protista?**

Ans**:- Criterion for Kingdom Monera:-** The prokaryotic organisms i.e. unicellular organisms which do nothave a membrane bound nucleus or cell organelles are classified under Monera (some have cell walls other do not have). This Kingdom includes bacteria, blue green algae and mycoplasma.

**Criterion for Kingdom Protista:-**The unicellular eukaryotic organisms which generally use cilia or flagella for movement are put under Protista. This includes diatoms, unicellular algae and protozoans.

**Qno9:- In which Kingdom will you place an organism which is single-celled, eukaryotic and photosynthetic?**

Ans: We will place that organism under Kingdom Protista.

**Qno10:- In the hierarchy of classification, which grouping will have the smallest number of organisms with a maximum of characteristics in common and which will have the largest number of organisms?**

Ans: In the hierarchy of classification species will have the smallest number of organisms with a maximum of characteristic in common and Kingdom will have the largest number of organisms.

**Qno11.Which division among plants has the simplest organisms?**

Ans: The division Thallophyta.

**Qno12. How are pteridophytes different from the phanerogams?**

Ans:

|  |  |
| --- | --- |
| **PTERIDOPHYTES** | **PHANEROGAMS** |
| 1. Theypossess hidden reproductive organs such i.e.cryptogamae.2. They have naked embryos.  | 1. They possess well differentiatedreproductive organs.2. Seeds consist of embryo and stored food in them. |

**Qno13. How do gymnosperms and angiosperms differ from each other?**

Ans:

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| --- | --- |
| **GYMNOSPERMS** | **ANGIOSPERMS** |
| 1. Plants bear naked seeds.2. Do not form fruits.3. They produce cones.4. They are generally evergreen, woody and perennial. | 1. Seeds are covered by fruit wall.2. Fruits are formed by ripening of ovary.3. Cotyledons are present in seeds.4. These may be biennial, perennial, woody or non- woody. |

**Qno14. How do poriferan organism/ animals differ from coelenterate animals?**

Ans:

|  |  |
| --- | --- |
| **PORIFERANS**1. They have pores (Ostia) all over the body with one osculum at the top.2. Central cavity spongocoel is present.3. Body made up of single layer of cells.4. Sessile i.e. fixed or non-motile animals.5. Body vase-like branched or sac- like.6. Water canal system for circulating water that brings oxygen and food.7. Exo- skeleton present. | **COELENTRATES**1.Pores are not present.2. Coelenteron present in the Centre of the body.3. Diploblastic: Body made up of double layer of cells.4.Some live in colonies others solitary.5. Body has tentacles and special sting-cells.6. No such system .Digestion and circulation takes place in gastrovascular cavity.7. Exo-skeleton absent. |

**Qno15:How do annelids animals differ from arthopods**

Ans:

|  |  |
| --- | --- |
| **Annelids** | **Arthopods** |
| 1.Long segmented body.2. True Coelom is present but not blood filled.3. Breathe through moist body surface.4. Excretion through nephridia.5. Mostly bisexual. | 1.Segmented body in 2 or 3 major parts.2. Coelomic cavity is blood (haemolymph) filled.3. Respiration through gills,book lungs or tracheae.4.Excretion through malpighiantubules, orcoxal glands or green glands.5.Male and female sexes are separates. |

**Qno16: What are the differences between amphibians and reptiles?**

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| --- | --- |
| **Amphibians**1.They can live on land and in water.2.They have moist skin.3.Scales are absent.4. Two pairs of pentadactly limbs present.5. Respiration through gills or lungs or moist skin.6.They lay eggs without coverings.Example: frog ,toad etc. | **Reptiles**1.They live on land .Creeping vertebrates2. Dry skin.3.They have scales on their skin.4.Two pairs of pentadactly limbs present but absent in snakes and some lizards.5. Respiration exclusively by lungs.6.Eggs have hard coverings.Example: snake, lizards etc. |

**Qno17:What are the differences between animals belonging to the Aves group and those in the mammalian group?**

Ans:

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| --- | --- |
| **Aves** | **Mammalian** |
| 1. Body is covered with feathers.
2. They are oviparous i.e. lay eggs.
3. No mammary glands.
4. They possess hollow bones for flying.
 | 1. Body is covered with hairs.
2. They are mostly viviparous i.e. give birth to young ones.
3. They possess mammary glands for production of milk to nourish their young ones.
4. No hollow bones.
 |

**Qno18.What are the advantages of classifying organisms?**

Ans: The advantages of classifying organisms are:

**1.Organisedstudy:** It makes the study of huge varieties of organism easy and organized.

**2. Easy technique:** This is an easy technique as it is based on the similarities and dissimilarities in various characteristic of organisms.

**3. Easy recognition:** Various organisms can be easily recognized according to their characteristic.

**4. Universal communication:** Classification provides a perfect nomenclature to organisms which is universally known and accepted .This helps in gathering knowledgeabout these organisms from anywhere in the world .

**5. Interrelation ship:** This helps us to understand the relationship of various organisms among different groups.

**6.Helps other fields of biology:** It helps to study other branches of science like biogeography, geographical distribution of organisms,agriculture, environmental biology etc.

**7. Evolution:** Helps in understanding about organic evolution too.

**Qno19: How would you choose between two characteristic to be used for developing a hierarchy in classification?**

Ans: Every organism has numerous characteristic on the basis of which it can be distinguished from another. The characteristic dependent on the previous one decides the variety in the next level. So, interdependence of two characteristics (like habitat, cellular structure, mode of nutrition or reproduction etc.) may be used for developing a hierarchy in classification.

**Qno20: Explain the basis for grouping organisms into five kingdoms**.

Ans: The basis of grouping organisms into five kingdoms are :

1. Prokaryotic or Eukaryotic cell.

2. Unicellular or multicellular organisms.

3. Cellstructure, like whether the cell has a cell wall or not.

4.Mode of nutrition, whether they are autotrophs or heterotrophs.

**Qno21: Whatare the major divisions in the Plantae? What is the basis for these divisions?**

Ans:The major divisions in the Kingdom plantae are:

**a.Thallophyta**

**b.Broyphyta**

**c.Pteriodophyta**

**d.Gymnosperms**

**e.Angiosperms**

The bases for these divisions are:

1. Whether plants body is differentiated into distinct components or

not.

2. Whether plants have vascular tissue for transportation of water and other substancesor not.

3.Whether seeds are enclosed in fruits or not.

**Qno22. How are the criteria for deciding division in plants different from the criteria for deciding the subgroups among animals?**

Ans:(The criteria for deciding divisions in plants are given in above answer).The basic body design of plants and animals are not the same, so instead of considering vascular tissues, seeds, fruits etc. Other features like presence or absence of vertebral column, respiratory organs etc.are considered for deciding the subgroups among animals.

**Qno23.Explain how animals in vertebrate are classified into further subgroups.**

Ans:The animals in vertebrata are classified into further subgroups on the basis of following characteristics.

**Pisces:**

a. Scales on the skin.

b. Breathing through gills

c. Aquatic.

d. Lay eggs in water

**2. Amphibia:**

a.Slimand smooth skin.

b.Gills in larvae but adults breathe through lungs.

c.Can live on land and in water.

d. Lay eggs in water.

**3. Reptilia:**

a. Body covered with scales.

b. Breathing through lungs.

c. Creeping animals.

d. Lay eggs outside water.

**4. Aves:**

a. Body covered with feathers.

b. Hollow bones.

c. Forelimbs modified into wings.

d. All birds .

 e.Lay eggs outside water.

**5.Mammalian:**

a. Hair on skin.

b. External ear.

c. Give birth to young ones and suckle them.

d.Mammary glands present.

CHAPTER NO: 5.

Why do we fall ill?

Non-Textual Questions

**Health**

Health is a state of complete physical, mental and social wellbeing.

**Disease**

Any disturbance in the structure or function of any organ or part of body.

It may be caused due to the attack of pathogens (virus, bacteria), lack of nutritious diet/balanced diet and lack of public health services.

**Types of Disease**

Diseases are basically of two types. They are:

**(i) Acute Disease**

The disease which lasts for only a short period of time is called Acute Disease.

For example: Influenza (Flu), Common cold, etc.

**(ii) Chronic Disease:** The disease which lasts for long period of time is called Chronic Disease

For example: TB, Cancer, etc.

**Difference between Acute Disease & Chronic Disease**

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| --- | --- | --- |
| **S. No.** | **Acute Disease** | **Chronic Disease** |
| **1.** | They are short duration disease | They are long lasting disease |
| **2.** | Patient recovers completely after the cure | Patient does not recover completely |
| **3.** | There is no loss of weight or feeling of tiredness afterward | There is often loss of weight of feeling of tiredness |
| **4.** | There is short duration loss of work and efficiency | There is a prolonged loss of work and efficiency |

**Causes of Diseases:**

Causes of diseases are explained below:

**Immediate and Contributory Cause**

* **Immediate cause:** The organisms that enter our body and causes disease is called immediate cause. For example, virus, bacteria, protozoa etc.
* **Contributory cause:** The secondary factors which led these organisms enter our body are called as contributory cause. For example, dirty water, contaminated food, improper nourishment, poor standard of living etc.

**Infectious and Non-infectious Cause**

**Infectious causes:** They include the agents like microbes or micro-organisms as the immediate causes which spread the disease from an infected person to a healthy person.

**Non-infectious causes:** The disease which does not spread by contact between infected and healthy person through air and water, is called non-infectious disease.

**Infectious and Non-infectious Diseases**

**Infectious Diseases:**The diseases which spread due to infection by micro-organisms are called infectious diseases.

When a disease-causing organism enters our body it causes infection, it multiplies and grows in the body called host and micro-organisms multiplies in the host body.

For Example: Tuberculosis, tetanus, Common cold, AIDS, etc.

**Non-infectious Diseases:** The disease which does not spread by contact between infected and healthy person through air and water, is called non-infectious disease.

For example: Cancer, genetic abnormalities, high blood pressure, etc.

**Means of Spreading Infectious Diseases:**

|  |  |  |
| --- | --- | --- |
| **S. No.** | **Type of Disease** | **Example** |
| **1.** | Air borne Diseases | Common cold, influenza, measles, tuberculosis. |
| **2.** | Water borne Diseases | Cholera, typhoid, hepatitis. |
| **3.** | Sexual Diseases | AIDS, Syphilis. |
| **4.** | Animal borne Disease | Rabies. |

**Antibiotics**

These are the chemicals (medicine, drugs) that block biochemical pathways important for bacteria. They are used for diseases caused by bacteria.

Antibiotics do not work against viral infections as the viruses do not have their own biochemical mechanisms but depend upon that of the host.

**Principles of treatment**
**1. To reduce the effects of the diseases**

By taking medicines to bring down the effects of the disease like fever, pain, etc. and by taking complete rest to conserve the body’s energy.

**2. To kill the cause of the disease**

By taking suitable antibiotics and drugs which kills the disease- causing microbes.

**Principles of Prevention**
**1. General method:**

They involve (a) Preventing exposure against microbes (b) By boosting the immune system

(a) Preventing exposure against microbes can be done in following ways:

For air-borne microbes we can prevent exposure by avoiding overcrowded places. For water-borne microbes we can prevent exposure by not using contaminated water.

For vector-borne infections we can prevent exposure by providing clean environment.

(b) By boosting the immune system:

Our immune system plays an important role in fighting against the microbes that enter our body. strengthening the immune system can help in preventing many diseases.

So, proper nourishment or healthy diet that includes all the necessary nutrients as well as vitamins and minerals is necessary for better functioning of our immune system.

**2. Specific method**
It involves the prevention method directed against a particular disease.

It is done by immunisation which is the process of introducing a weakened pathogen inside the body of the host to make his/her immune system to produce antibodies against that particular disease so that the next time even if the disease will strike the host’s body with full vigour, the body will be able to protect itself with the help of these antibodies.

**Textual Questions:-**

**Qno1:State any two conditions essential for good health.**

Ans: Health is a state of physical, mental and social well- being.

Two essential conditions are:

a. Being disease free.

b. Having a clean, equal and harmonious environment necessary for good social and mental health.

**Qno2: State any two conditions essential for being free of disease.**

Ans: The two conditions essential for being free of disease are:

a. Eating proper, good food.As balanced diet helps in maintaining immune system.

b. Maintaining personal, domestic and public hygiene as it helps keeping away from disease causing microbes.

**Qno3: Are the answers to the above questions necessarily the same or different? Why?**

Ans: The answers to above questions are not necessarily same because when we talk about disease we consider an individual but when we talk about "good health”, then we think about societies and communities. It is possible to be in poor health without actually suffering from a particular disease. Good health may mean different to different people likemusician, dancer etc.But the similaritieslie in the factors responsible to maintain good health as these help reducing the chances of catching diseases.

**Qno4: List any three reasons why you would think that you are sick and ought to see a doctor. If only one of these symptoms were present, would you still go to the doctor? Why or why not?**

Ans: When there is a disease, one or more organs or tissues show changes which cause discomfort. These changes give rise to symptoms and signs of diseases. These symptoms may be headache,stomachache, vomiting, loose motions, cough etc. These symptoms indicate the presence of a disease but do not specify it.A single symptomsmay indicate number of diseases.so, I would go to a doctor if only one symptom is present because he will diagnose the problem through definite indication of signs and can get laboratory tests done to find out the exact disease.

**Qno5: In which of the following case do you think the long term effects on your health are likely to be most unpleasant?**

**a. If you get jaundice,**

**b. If you get lice,**

**c. If you get acne. Why?**

Ans: If we get jaundice, then we would get long term effects on the health as it takes time to be cured and affects the general health poorly. One loses weight and needs complete rest along with medication. It is a chronic disease which has long term effects on one's health. But in case of lice or acne, the problem takes comparative very less time to be controlled and causes no major effect on general health.

**Qno6: Why are we normally advised to take bland and nourishing food when we are sick?**

Ans: During sickness, not only the immune system but the other system in our body also do not function well. In that case when body functions are not normal, we require the food which may provide adequate nutrients and can be digested easily. Therefore when we are sick, then bland and nourishing food is advised.

**Qno7: What are the different means by which infectious diseases are spread?**

Ans: Infectious diseases are caused by microbes .These can be spread through following ways:

**A.THROUGHAIR**: When an infected person coughs or sneezes, the little drops are thrown out. A person close to this may breathe in and the diseases causing microbes enter and infect the body of the second person. This is very common way of catching infections of common cold, pneumonia and tuberculosis.

**B. THROUGH WATER:** If water gets contaminated someway, it contains diseases causing microbes. If this water gets mixed with drinking water and consumed by people then the microbes may enter the new hosts and cause diseases like jaundice, cholera etc.

**C. THROUGH SEXUAL CONTACT:** Somemicrobial diseases are transmitted by sexual contact of an infected person with a healthy one. Such diseases are AIDS, Syphilis etc.

**D. THROUGH VECTORS:** Some animals carry diseases causing microbes from infected to healthy people, these are called vectors. Some diseases are spread through thesevectors. Like malaria (vector -female anopheles mosquito).

**Qno8: What precautions can you take in your school to reduce the incidence of infectious diseases?**

Ans: We can take following precautions in our school to reduce the incidence of infectious diseases.

**A. CLEAN SURROUNDING:** We must keep the surroundings clean so that the growth of vectors can be prevented. The play grounds, toilets etc. must be cleaned regularly.

**B.CLEAN DRINKING WATER:** We must take care that the drinking water in the school must be clean and safe to prevent water borne diseases.

**C.** Closed dustbin should be kept.

**D.**To get vaccinated in various vaccination programmes.

**Qno9: What is immunization?**

Ans: Immunization is a process of injecting a vaccine (i.e. a solution containing diseases causing microbes in weakened, diluted or killed form) into ahealthy person to develop immunity against a particular disease. If a person is immunised, then the infection is eliminated quickly.

**Qno10: What are the immunisation programmes available at the nearest health Centre in your locality? Which of these diseases are the major health problems in your area?**

Ans: At the health centre near our locality following immunisation programmes are available.

**A.FOR INFANTS:**

 DTP - against Diphtheria, Pertusis and Tetanus.

 BCG-against Tuberculosis.

Polio drops- against Polio.

Measles vaccine\_ against Measles

**B .FOR CHILDREN AND ADULTS:**

Small pox vaccine.

Chicken pox vaccine.

Typhoid vaccine.

Hepatitis B vaccine.

**C. FOR PREGNANT WOMEN:**

TT- against Tetanus.

Hepatitis B.

 The major health problems in our locality are typhoid, tuberculosis, chicken- pox and measles.

**Qno11: How many times did you fall ill in the last one year? What were the illnesses?**

1. **Think of one change you could make in your habits in order to avoid any of /most of the above illnesses.**
2. **Think of one change you would wish for in your surroundings in order to avoid any of / most of the above illnesses.**

Ans:I was ill two times in the last year. I suffered with common cold that lasted for very short period of time and fever for somedays only.

a.Take proper care of your skin, hairs and nails as well as eye,ear, nose etc. balanced and nourishing diet is essential to maintain good health .over- eating must be avoided.

b.Maintain clean water supply. Unwanted solid refuse can be disposed on land by land fill or incineration.

**Qno12: A doctor/ nurse/health- worker is exposed to more sick people than others in the community. Find out how she / he avoids getting sick herself/ himself.**

Ans: A doctor / nurse /health – workers avoids getting sick herself /himself by infections by preventing exposure to it. He/ she prevents by drinking safe and clean drinking water. The surroundings of a doctor or nurse are always clean. More ever they know the causes, means of spread and signs of diseases and prevention as well as treatment e.g. use of gloves, different dresses etc.

**Qno13: Conduct a survey in your neighbourhood to find out what are the three most common diseases .suggest three steps that could be taken by your local authorities to bring down the incidence of these diseases.**

Ans:Common cold, influenza and typhoid fever are the three most common diseases in our neighbourhood.The public health programmes of childhood immunization ,good sanitation and disposal of faecal matter are necessary.

**Qno14: A baby is not able to tell her / his care takers that she / he is sick .What would help us to find out.**

**a.That the baby is sick.**

Ans: some symptoms and signs will tell that the baby is sick. These symptoms may be – cough, loose motion, high body temperature .vomiting etc. The baby will be irritable and may cry repeatedly.

**b.What is the sickness?**

Ans:Kind of sickness can be known by certain organ -specific and tissue -specific symptoms e.g. yellowness of skin and eyes indicate the jaundice and hepatitis.

**Qno15:Under which of the following condition is a person most likely to fall sick?**

**a.When she is recovering from malaria.**

**b. When she has recovered from malaria and is taking care of someone suffering from chicken pox.**

**c.When she is on a four-day fast after recovering from malaria and is taking care of someone suffering from chicken-pox.Why?**

Ans: When she is on a four-day fast after recovering from malaria and is taking care of someone suffering from chicken- pox. Since when she was suffering from malaria, she had high fever and she may have lost her appetite due to nausea. In that situation the immune system fighting against disease becomes weak. After that she had a four- day fast too. That will weaken the immune system even more. With the state of health if she takes care of someone suffering from chicken – pox which is quite a contageous disease. She has definitely all the chances to fall sick.

**Qno16: Under which of the following conditions are you most like to fall sick?**

1. **When you are taking examinations.**
2. **When you have travelled by bus and train for two days.**
3. **When your friend is suffering from measles. Why?**

Ans: Iam most likely to fall sick when my friend is suffering from measles .since measles is an infectious disease which spreads through air. Being a friend if I sit by him or play or even go to visit him, I can catch the viral infection quite easily. The microbes get transmitted when the sick person coughs or sneezes through the droplets thrown in air. Therefore it is important to stay away.