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Class 12<sup>th</sup>

Subject Biology

Date 17.06.2021

## Chapter 8-

### Human Health and Diseases

1. What are the various public health measures, which you would suggest as safeguard against infectious diseases?

Solution:

The public health measures are the measures taken to prevent and check the spread of different infectious diseases. It is taken to lessen contact with infectious agents.

Some of these preventive measures are as follows:

☒ Isolation – it prevents the spreading of air-borne diseases (chicken pox, pneumonia, tuberculosis etc) which is required to isolate infected person to reduce the chances of diseases to spread

☒ Vaccination – it is the protection of the body from diseases that can be communicated which is done by administering some agents which impersonate the microbe in the body. This helps in rendering passive immunization to the body. Vaccines are available for some of the diseases such as mumps, polio, measles etc

☒ **Vector eradication** – diseases such as dengue, malaria etc that spread through vectors can be prevented by ensuring a clean environment and checking the breeding of mosquitoes which is facilitated by regulating water, looking for it to not stagnate in residential areas. Some other measures are periodic cleaning of coolers, use of mosquito nets and insecticides. It can also be controlled by introducing Laxvivorous fish such as Gambusia in ponds, as they control mosquito larvae-breeding in stagnant water

☒ Maintaining public and personal hygiene is one of the most important practices to prevent the

spread of infectious diseases as it includes maintaining a clean body, consuming healthy and nutritious food, clean water etc. Proper disposal of wastes, excreta, disinfection of water reservoirs are some of the measures that can be adapted as part of public hygiene.

2. In which way has the study of biology helped us to control infectious diseases?

Solution:

Biology is a vast field of Science dealing with life forms and its processes. It has helped in controlling infectious diseases in the following ways:

- ☐ Complete eradication of fatal diseases such as small pox was possible with the use of immunization schemes and vaccines
- ☐ Other infectious diseases such as diphtheria, polio, pneumonia etc have been successfully controlled with the use of vaccines
- ☐ Treatment of several infectious diseases have successfully been carried out with the use of antibiotics and other drugs

3. How does the transmission of each of the following diseases take place?

(a) Amoebiasis (b) Malaria (c) Ascariasis (d) Pneumonia

Solution:

The transmission of diseases is as given in the table:

Name of the disease Transmission

Amoebiasis Ingestion of quadrinucleated cysts of *Entamoeba histolytica* can cause the cysts to be passed from patient's faeces via water and food

Malaria Plasmodium or the malarial parasite is communicated to a healthy person from a patient when bitten by a female *Anopheles* mosquito

Ascariasis it can be passed by ingesting contaminated water and food with the embryonated eggs of *Ascaris*

Pneumonia Transmitted by droplets and sputum given out when patient coughs. It is a bacterial disease

