Short Answer Type Questions – II

[3 marks]

Q. 1. What are the constituents of a balanced diet?

Ans. Constituents of a balanced diet are as follows:

(a) Carbohydrate: It provides 50-70% of total energy intake.

(b) Fat: For an adult fat should provide 20% of total energy intake. Children require more fat so as to suffice 50% of the total energy intake.

(c) Proteins: Protein intake should be about 15-20% of the total daily energy intake.

(d) Vitamins and minerals

(e) Water

(f) Roughage

Q. 2. Write four common symptoms of malaria.

Ans. (i) Sudden appearance of fever with pain and sensation of cold shivering.

(ii) Body temperature rises up to 106°F and patient becomes burning hot. He or she experiences intense headache, faster breathing rate and heartbeat.

(iii) Fever later comes down with profuse sweating. This occurs either daily at a particular time or is repeated every third or fourth day depending upon the species of the parasite.

(iv) Enlargement of spleen and anacmia occurs.

Q. 3. Write the distinct species of malarial parasite in man.

Ans. Malaria in man is caused by four distinct species of malarial parasites:

(i) $\boldsymbol{Plasmodinum\ vrvax}$**:** incubation period in human is 8-17 days.

(ii) P. $\boldsymbol{falciparum}$**:** incubation period in human is 9-14 days.

(iii) P. $\boldsymbol{malariae}$**:** incubation period in human is 18-40 days.

(iv) P. $\boldsymbol{ovale}$**:** incubation period in human is 16-18 days.

Q. 4. What is the difference between being 'healthy' and 'disease-free'?

Ans. A person is said to be healthy when:

(a) All the organs and systems of the body are intact and working well.

(b) One is mentally balanced, free from anxieties and tensions.

(c) One is socially well-adjusted in the family, friends and society.

Whereas being ‘disease-free' means absence of any body discomfort. Thus, being healthy is not just freedom from disease.

Q. 5. What are the immediate and contributory causes of diseases? Explain it with the example of a child suffering from diarrhoea.

Ans. Immediate cause of a disease is the primary factor causing a disease. Contributory causes are factors, which do not cause the disease themselves but provide conditions for the disease to occur. Virus causing diarrhoea is the immediate cause. Contaminated drinking water and lack of resistance due to under-nourishment are the contributory causes.

Q. 6. Write the symptoms when following organs are targeted by microbes.

(a) Lungs

(b) Liver

(c) Brain

Ans. (a) Lungs - cough, breathlessness

(b) Liver – jaundice

(c) Brain - headache, vomiting, fits.

Q. 7. Enlist the cause of diseases.

Ans. Disease may be caused due to any of the following reasons:

(i) Infection

(ii) Lack of nutritive and sufficient food

(iii) Poor health

(iv) Lack of public services

(v) Hereditary reasons

Q. 8. Describe health care.

Ans. Health care is provided to vast majority of poor, rural and urban people through effective health care centres. Health care services provide different types of care at primary health care centre and secondary health care centers.

Primary health care is provided by the primary health centres established in small towns and villages, through the agency of health workers, village health guide and trained *dhayas.*

Secondary health care deals with more complex problems. It is generally provided in district hospitals and community health centers.

Q. 9. What determines the severity of disease manifestation?

Ans. The number of disease-causing microbes in the body decide the severity of disease manifestation. If the number of microbes is very small, the disease manifestations may be minor and even go unnoticed. But if the number of microbes is large, the disease can be severe. In fact if the number of microbes is very large, the disease can even be fatal. Our immune system is a major factor that determines the number of microbes surviving in the body.

Q. 10. Differentiate between communicable and non-communicable diseases

Ans.

Communicable Diseases	Non-communicable Diseases
1. These diseases can be transmitted from an infected person to a healthy person.	**1.** These diseases cannot be transmitted.
2. These are spread by microorganisms called Pathogens.	**2.** These are caused by deficiency of nutrients or hormone, tumour formation, etc.
3. *e.g.*, Cholera, influenza, AIDS, malaria, etc.	**3.** ***e.g.***, Diabetes, marasmus, goitre, cancer, etc.

Q. 11. Name the infectious disease that leads to immunodeficiency. Give the scientific name of the pathogen causing the disease and mention the body organs it primarily affects.

Ans. AIDS is an infectious disease that leads to immune deficiency and wasting of body parts. It is caused by Human Immunodeficiency Virus (HIV). HIV attacks helper T-lymphocytes, thus causing cell-mediated immunodeficiency, which makes the body more prone to various infections.

Q. 12. Name fat-soluble vitamins and diseases caused by them.

Ans. Fat-soluble vitamins include vitamin A, D, E and K.

Vitamin	Deficiency Diseases

A D E K	Xerophthalmia, night-blindness, keratomalacia Rickets in children, osteomalacia in adults Anaemia Bleeding disease

Q. 13. What are the causes and symptoms of goitre?

Ans. Goitre is caused due to deficiency of iodine in the diet.

Symptoms of goitre are as follows:

(i) Abnormal growth of thyroid gland situated in the front part of the neck.

(ii) Increase in body weight due to accumulation of fat and retention of water in the body.

(iii) Increased rate of spontaneous abortion and still birth.

(iv) Disorder in nervous system. Iodine deficiency in childhood causes reduced functioning of the thyroid gland resulting in retarded growth.

Q. 14. What are the sources of iodine? What are the prevention and control methods of goitre.

Ans. Sources of iodine: The best sources of iodine are sea foods and cod liver oil. A smaller amount of iodine occurs in milk, leafy vegetables, cereals and meat, etc. Iodised salt contains sufficient amount of iodine.

Prevention and control of goitre: It can be prevented by providing iodine in the diet in the form of iodised salts, such as potassium iodate and potassium iodide. These can be added in drinking water or in common salt used daily. Intra-muscular injection of iodised oil or sodium iodide tablets developed by Indian Council of Medical Research is quite effective in curing goitre.

Q. 15. What are the indirect modes of transmission of infectious diseases?

Ans. Indirect transmission occurs through flies, food and fluid, etc. Infectious agents are transmitted through water and food including vegetable, fruits, milk, milk products, ice, blood serum, plasma, etc. Their transmission is vehicle-borne. Some examples are as follows:

1. Hepatitis A virus	Multiplies in water
2. Diarrhoea, typhoid fever, polio, cholera	Transmitted by water and food
3. Hepatitis B, malaria, syphilis, chagas disease	Transmitted by vectors

Q. 16. What are the common preventive measures against communicable diseases?

Ans. The common preventive measures against communicable diseases include:

(i) Eradication of vectors and carriers.

(ii) Immunisation (vaccination).

(iii) Proper and safe water supply.

(iv) Personal and community hygiene.

(v) Sterilisation of articles used by the patients.

(vi) Isolation of patients from the healthy persons.

(vii) Health education.

Q. 17. Name the diseases caused by the following - (i) Protozoa, (ii) Virus, (iii) Bacteria, (iv) Fungi. How is malaria transmitted?

Ans. The diseases caused by various microorganisms are as follows:

(i) Protozoa: Malaria, amoebiosis, dysentery, giardiasis, kala-azar, etc.

(ii) Virus: AIDS, polio, dengue, rabies, chicken pox, influenza, etc.

(iii) Bacteria: Pneumonia, diphtheria, tuberculosis, meningitis, leprosy, typhoid, tetanus, syphilis, etc.

(iv) Fungi: Fungi mainly causes skin diseases and food poisoning.

Malaria is caused by a parasite found in female $Anopheles$ mosquitoes. When the mosquitoes carrying the malarial parasite bite a person, the parasite enters the blood stream and the person suffers from malaria.

Q. 18. What are the three limitations which one has to face while dealing with an infectious disease?

Ans. The three limitations which one has to face while dealing with an infectious disease are:

(i) The body functions are damaged drastically and may never recover completely if not cared.

(ii) The treatment will take time, which means that someone suffering from a disease is likely to be bed-ridden for sometime.

(iii) The person suffering from an infectious disease can serve as a source from where the infection may further spread to other people.

Q. 19. What is immunity? Explain natural and acquired immunity.

Ans. Immunity means the resistance of the body to a disease. It is due to the presence of antibodies in our body against the disease-causing microorganisms known as antigens. When these antigens enter our body, antibodies are formed which prevent the disease.

Natural immunity means that a person has these antibodies since birth. $e.g.$, whenever antigens, say of cholera enter the body, the person will not suffer from the disease. Acquired immunity means when a person suffers from a disease once, antibodies for these particular disease-causing antigens will be formed in the body and he will not get the same disease again.

Q. 20. Give an example where tissue specificity of the infection leads to very general seeming effects.

Ans. We can see the tissue specificity of the infection leading to very general seeming effects in case of HIV infection. The HIV attacks the immune system via the lymph nodes. From here it spreads all over the body and damages its functions. Because of this, the body becomes prone to various diseases as it cannot fight off even the minor infections which otherwise would not have lasted longer.

For example, even a small cold can become pneumonia and a minor gut infection may lead to a severe case of diarrhoea with blood loss.

In the same way, other infections kill people that are suffering from, $e.g.,$ HIV-AIDS. The tissue specificity of the infection (HIV-AIDS) is lymph nodes. General seeming effects are loss of immunity even to minor diseases or infections that ultimately lead to the death of the patient.

Q. 21. What precautions will you take to justify "prevention is better than cure"?

Ans. Following precautions should be taken for prevention of diseases:

(i) Maintaining hygienic conditions.

(ii) Awareness about the disease and its causal organism.

(iii) Intake of a balanced diet.

(iv) Regular medical check-up.

Q. 22. Give any four factors necessary for a healthy person.

Ans. For a healthy person it is necessary that

(i) the surrounding environment should be clean. Air and water-borne diseases should not spread.

(ii) personal hygiene is maintained to prevent infectious diseases.

(iii) proper, sufficient nourishment and food is available for good immune system of our body.

(iv) body is immunised against severe diseases.