

# QB365 Question Bank Software Study Materials

## World of Microbes Important 2,3 & 5 Marks Questions With Answers (Book Back and Creative)

9th Standard

Science

Total Marks : 75

### 2 Marks

10 x 2 = 20

1) Who isolated HIV which causes AIDS?

**Answer :** Robert Gallo isolated HIV at National Institute of Health, USA and Luc Montagnier at Pasteur Institute, Paris in 1983.

2) Define - microbiology.

**Answer :** Microbiology is a branch of biology that deals with living organisms of microscopic size, which include bacteria, fungi, algae, protozoa and viruses.

3) Define Antibiotics.

**Answer :** Antibiotics are metabolic products of microorganisms, which in very low concentration are inhibitory or detrimental to other microbes.

4) What diseases are controlled by antibiotics in human beings?

**Answer :** In human beings antibiotics are used to control infectious diseases like cholera, diphtheria, Pneumonia, typhoid, etc.

5) Define vaccines.

**Answer :** Vaccines are prepared by killing or making the microbes inactive- These inactive microbes are unable to cause the disease, but stimulate the body to produce antibodies against the antigen.

6) List out the symptoms of Tuberculosis disease.

**Answer :** The symptoms of tuberculosis disease is persistent cough, chest pain, loss of weight and appetite.

7) List out the symptoms of Influenza.

**Answer :** Fever, body pain, cough, sore throat, nasal discharge, respiratory congestion are the Symptoms of Influenza.

8) Write the preventive measure control swine flu disease.

**Answer :**

1. Administration of nasal spray vaccine.
2. Intake of water and fruit juices will help prevent dehydration.
3. Plenty of rest will help the body fight infection
4. Always wash hands and practice good hygiene.

9) List out the symptoms of AIDS.

**Answer :** Weight loss, prolonged fever, sweating at night, chronic diarrhea are some of the important symptoms.

10) How is AIDS transmitted to a person?

**Answer :** It is transmitted through

1. Sexual contact (from infected person to a healthy person).
2. Blood contact (transfusion of unscreened blood)
3. By surgical equipments (infected needles and syringes)
4. Maternal - foetal transmission (from infected mother to the foetus)

### 3 Marks

10 x 3 = 30

11) Distinguish between Virion and Viroid.

**Answer :**

VIRION	VIROID
1. They grow in living cells	They are found in Plant cells.
2. They have Protein coat.	Protein free Pathogenic RNA.

12) Name the vector of the malarial parasite. Mention the species of malarial parasite which cause malignant and fatal malaria.

**Answer :** i) The vector of malarial parasite is female Anopheles mosquito.  
ii) Malaria is caused by Plasmodium falciparum is malignant and fatal.

13) What is triple antigen? Mention the disease which can be prevented by using the antigen.

**Answer :** Triple antigen is a combined vaccine for protection against Diphtheria, Pertussis (whooping cough) and Tetanus.

14) A baby is suffering from diarrhoea, while other babies in the same locality do not. Mention the possible causes that you think. What would be the possible solutions for this?

**Answer :** Possible causes: Infected by the virus through, contaminated food and water and oral route.  
Possible solution: Proper sanitation and hygiene in the babies family.

15) Why should we avoid standing close to a tuberculosis patient while she/he is coughing?

**Answer :** Because Tuberculosis is a airborne disease and can spread through air when the patient coughs or sneezes if we stand close to him/her.

16) Polio drops are not given to children suffering from diarrhoea. Why?

**Answer :** 1. In medical condition like diarrhoea the defecation process is increased. Whatever a body intakes, will be released out quickly.  
2. Polio drops comprise of attenuated polio virus which when given, a large portion of it needs to stay in the intestine for a long period to show its results.  
3. If the patient is suffering of diarrhoea the transmit time in intestine becomes less and the opportunity for multiplication of virus is reduced. This leads to reduced efficacy of the polio vaccine is avoided to children suffering from diarrhoea.

17) While -returning from school, Suresh ate chaat from a street hawker, when he reached home, he felt ill and complained a stomach ache, what could be the reason.

**Answer :** The reasons may be  
i) Street foods are less hygiene, the conditions in which they are made are very bad.  
ii) The worker who cooks and serve street food, do not wear gloves, do not wash hands and use the same hands to clean their sweat and wipe their body.  
iii) Diseases spread through contaminated of food and water. Chaat may be contaminated by microbes due to its unhygiene preparation and handling.  
This may be the reason Suresh fell ill and complained stomach ache.

18) What is incubation period?

**Answer :** It is the time between infection and the first appearance of the diseases is called incubation period.

19) Classify the following into friendly and harmful microorganism.

Yeast, Malarial parasite, Lacto bacillus bread mould, Rhizobium, Bacillus Anthracis, Aspergillus niger, Rubeola.

**Answer :**

Friendly	Harmful
Yeast	Malarial parasite
Lacto bacillus	Bread mould
Rhizobium	Bacillus anthracis
Aspergillus niger	Rubeola

20) How can we prevent the following diseases.

a) Cholera b) Typhoid c) Hepatitis A

**Answer :** a) Cholera

It can be prevented by Hygiene sanitary condition, intake of oral rehydration solution. (ORS).

b) Typhoid

It can be prevented by preventing contamination of food by flies and dust improvement of basic sanitation, treatment with antibiotic drugs.

c) Hepatitis A:

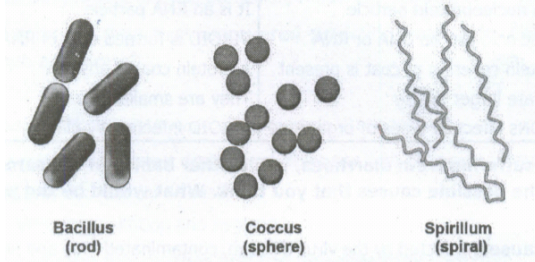
It can be prevented by, prevention of food contamination drinking chlorinated boiled water, personal hygiene.

**5 Marks**

5 x 5 = 25

21) Give an account of classification of bacteria based on the shape.

**Answer :** Based on the shapes, bacteria are grouped as



1. Spherical shaped bacteria called as cocci or coccus for a single cell.
2. Rod shaped bacteria called as bacilli or bacillus for a single cell.
3. Spiral shaped bacteria called as spirilla or spirillum for single cell.

Different shapes of Bacteria		
	Arrangement of Cocci	Examples
Diplococci	cocci are arranged in pairs	Streptococcus pneumoniae
Streptococci	Streptococci cocci are arranged in chains	Streptococcus pyogenes
Tetrads	cocci are arranged in packets of four cells	Aerococcus sp
Staphylococci	cocci are arranged in grape-like clusters	Staphylococcus aureus
	Arrangement of Bacilli	Examples
Diplobacilli	diplobacilli appear in pairs	Klebsiella sp
Streptobacilli	bacilli are arranged in chains	Streptobacillus sp
Coccobacilli	short and stumpy and appear ovoid	Haemophilus sp
	Arrangement of Spirilla	Examples
Vibrio	comma-shaped bacteria	Vibrio cholerae
Spirilla	rigid spiral structure	Helicobacter pylori
Spirochetes	helical shape and flexible bodies	Treponema pallidum

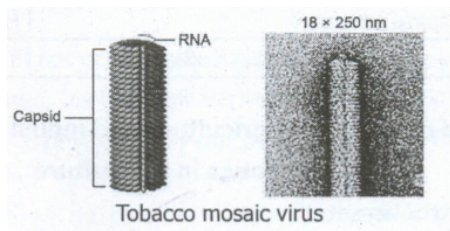
22) Explain the various types of viruses with examples.

**Answer :** Viruses are categorized as

**i) Plant virus:**

Virus that infect plants,

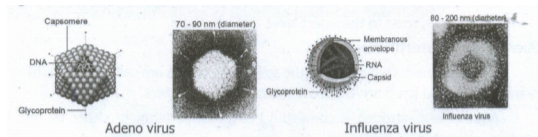
eg: Tobacco mosaic virus, cauliflower mosaic virus, Potato virus.



**ii) Animal virus:**

Virus that infect animals

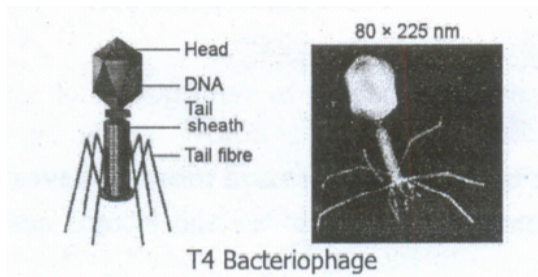
eg: Adenovirus, Retrovirus(HIV), Influenza virus



**iii) Bacteriophages:**

Virus that infect bacterial cells.

eg: T4 Bacteriophage



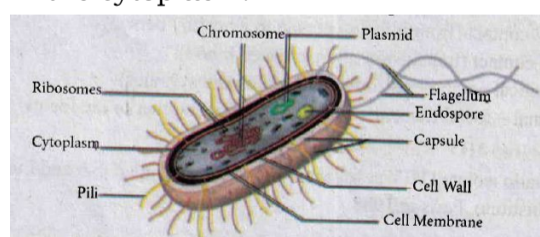
23) Describe the structure of a Bacterial cell with a neat labeled diagram.

**Answer :**

24) Describe the bacteria cell.

**Answer : Structure of a bacteria cell**

1. Bacterial cell has cell membrane, covered by strong rigid cell wall made up of peptidoglycan.
2. In some bacteria, outside the cell wall there is an additional slimy protective layer called capsule made up of polysaccharides.
3. The plasma membrane encloses the cytoplasm, incipient nucleus (nucleoid), ribosomes and DNA which serve as genetic material. Ribosomes are the site of protein synthesis
4. They lack membrane bound organelles. In addition to this, a small extra chromosomal circular DNA called plasmid is found in the cytoplasm.



25) Explain the classification of diseases based on their occurrence.

**Answer :** Endemic:

When the disease is found in certain geographical area affecting a fewer number of people. Eg. Occurance of goitre in Sub Himalayan regions.

Epidemic:

When the disease breaks out and affects large number of people in a particular geographical region and spreads at the same time. Eg. Influenza

Pandemic:

When the disease is widely distributed on a global scale.

Eg. Acquired Immuno Deficiency Syndrome

Sporadic:

When there is an occasional occurrence of disease.

Eg. Malaria and cholera.