

## Biology - FSC Part 1 Biology English Medium Chapter 6 Preparation

Q1. Name bacteria in which are photosynthetic.

**Ans 1:** Green sulphur bacteria, purple sulphur bacteria, and purple non sulphur are photosynthetic bacteria.

Q2. Write four postulates of germ theory of disease.

**Ans 1:** Robert Koch formulated postulates that they are the main pillars of germ theory of disease. A specific organism can always be found in association with given disease. The germ can be isolated and grown in pure culture in the lab. The pure culture will produce the disease when inoculated in the susceptible animal. It is possible to recover the organism in pure culture, from experimentally infected animal.

Q3. Differentiate between Amphitrichous and Peritrichous bacteria.

**Ans 1:** Amphitrichous: Amphitrichous is a condition when tuft of flagella at each two poles of bacteria is present.

**Ans 2:** Peritrichous: In Peritrichous flagella surround the whole bacterial cell.

Q4. Write down some misuses of antiseptics.

**Ans 1:** Misused antiseptics can interact with the human metabolism; can cause allergy and some other disorder. In some cases it may cause death. Misuse of antibiotic such as penicillin can cause allergic reactions.

Q5. What are plasmids?

**Ans 1:** Plasmids are circular, double stranded DNA molecule. They are self-replicating and extrachromosomal structure present in bacteria.

Q6. Discuss reproduction in Nostoc.

**Ans 1:** Reproduction:

Sexual reproduction is absent in Nostoc.

Asexual Reproduction: It reproduces asexually formation of hormogonia. Hormogonia are formed when filaments break at different points into smaller pieces. This is due to the death and decay of an ordinary cell or the heterocyst may serve as breaking point.

Reproduction may also be due to akinetes formation. Akinetes are thick walled, enlarged vegetative cells which accumulate food and become resting cells.

Q7. Differentiate between capsule and slime in bacteria.

**Ans 1:** Capsule: Some bacteria have capsule outer to cell wall. It is made up of repeating polysaccharide units of proteins or of both. The capsule is tightly bound to the cell. It has thicker, gummy nature that gives sticky characters to colonies of encapsulated bacteria.

**Ans 2:** Slime: Some bacteria are covered with loose, soluble shield of macromolecules. It is called slime. The capsule and slime provide greater pathogenicity to bacteria and protect them against phagocytosis.

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Q8. What are saprophytic bacteria?

**Ans 1:** They get their food from dead organic matter. Organic compounds are abundant in the soil in the form of dark colored materials called humus. This material results from partial decay of dead plants and animals. Many soil inhabiting bacteria have extensive system of enzymes which is responsible for breakdown of complex substances of humus to simple substances, these simple substances are then absorbed by bacteria which use them as a source of energy.

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Q9. Write down the classification of bacteria on the basis of shapes.

**Ans 1:** On the basic of general shapes, bacteria are classified into following three categories.

1. Cocci
2. Bacilli
3. Spirillum

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Q10. What are microaerophilic bacteria?

**Ans 1:** Microaerophilic bacteria: Some bacteria require a low concentration of oxygen for growth and are called microaerophilic. Example Campylobacter

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