Biology - FSC Part 1 Biology English Medium Chapter 6 Preparation

Q1. Name taxonomic groups of bacteria on the basic of presence of flagella their number and pattern and attachment.

Ans 1: On the basis of presence of flagella, pattern of attachment of flagella and the number of flagella,bacteria are classified into different taxonomic groups. Atrichous: The bacteria are without flagella. Monotrichous: When a single polar flagellum is present then condition is known as monotrichous. Lophotrichous : If tuft of flagella is on at one pole of bacteria then these are lophotrichous flagella. Amphitrichous: It is condition when tuft of flagella at each of two poles is present. Peritrichous: In these condition flagella surrounds the whole cell.

Q2. What are akinetes?Give their functions.

Ans 1: Akintes are thick walled,enlarge vegetative which accumulate food and become resting cells.On the onset of favourable conditions they form normal vegetative cells.

Q3. What are mesosomes in bacteria? Give also function.

Ans 1: Bacterial cell membrane invigilates into cytoplasm forming structure called as mesosomes; Mesosomes are in the form of vesicles, tubules and lamellae. Mesosomes are involved in DNA replication and cell divisions where as some mesosomes are involved in the export of exocellular enzymes. Respiratory enzymes are also present on the mesosomes.

Q4. 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

Q5. What is periplasmic space? In which bacteria it is present?

Ans 1: The periplasmic is a concentrated gel like matrix in the space between inner cytoplasmic membrane and bacterial outer membrane is called periplasmic space. It is present is Gram negative bacteria.

Q6. What are trichomes?Give the structure and function of heterocyst.

Ans 1: In Nostoc cells are arranged in chains and covered by mucilage sheath called trichome.
Heterocyst: All cells in trichome are mostly similar in structure but at regular interval are found slightly large,round,light yellow thick walled cells known as heterocysts.Trichome mostly break near heterocyst and from hormogonia.So heterocysts help in fermentation.Nitrogen fixation also take place in heterocysts.

Q7. Differentiate between hormogonia and akinetes.

Ans 1: Hormogonia: Hormogonia are formed when filaments break at different points into smaller pieces.This is due to death and decay of an ordinary cell.

Ans 2: Akinetes are thick walled,enlarged vegetative cells which accumulate food and become resting cells.On arrival of favourable conditions they form normal vegetative cells.

Ans 3:

1.

Q8. Differentiate between streptococcus and staphylococcus.

Ans 1: Streptococcus: When cocci long chain of cells then arrangement is called streptococcus.

Ans 2: Staphylococcus: When division occurs in random planes it will produce a staphylococcus arrangement in which cocci are arranged in irregular,often grape-like cluster.

Q9. Differentiate between lag phase and log phase of growth of bacteria.

Ans 1: Lag phase: It is period of no growth. Bacteria prepare themselves for division.

Ans 2: Log phase: It is period of rapid growth. Bacteria divide at exponential rate.

Q10. 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 from flagella surround the whole bacterial cell.
