

Date - 03-08-2024

Department of Botany

B.Sc part - III Hons

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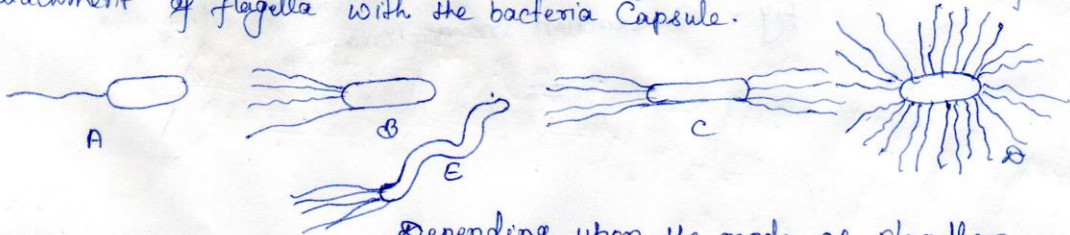
online class - J.J. College, Ara, Sr Simil pondit.

Time - 8:30 - 9:30

Group - B. plant pathology.

Question \rightarrow Write short notes on: - 1-

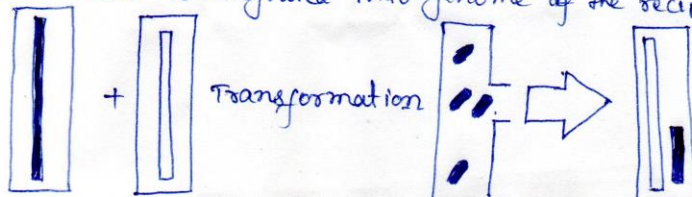
1. Flagellation in Bacteria \rightarrow Flagella are little whip like fine structure with the help of which the microbes or bacteria make their movements. Some bacteria are non-motile which cannot move whereas some bacteria are motile which move independently with the help of their flagella. The flagella are delicate hair like structure which extend out from the body capsule either singly or in group. The flagellation is the process of attachment of flagella with the bacteria capsule.



Depending upon the mode of flagellar attachment the bacteria may be divided into following group \rightarrow
(a) Monotrichous (b) Lophotrichous (c) Amphitrichous (d) peritrichous
(e) Atrichous (f) pili.

2. Conjugation in Bacteria \rightarrow It is a process in which transfer of genetic material (DNA) takes place from a donor cell to recipient cell of bacteria. The process was first studied by Lederberg and tatum (1944) in *Escherichia coli*. The transfer of genetic material from donor to recipient takes place by their mutual union. The recipient strain is known as F^- (Female) while the donor strain is known as F^+ (Male).

3. Bacterial Transformation \rightarrow The process of transformation was studied by Fred Griffith (1928) first. According to him the donor cell is provided with a larger size free DNA fragment which is transferred to the recipient cell is integrated into genome of the recipient cell.



4. Bacterial Transduction

It is a process in which the transfer of genetic material from one bacterial to another bacterium takes place by virus. N. D. Zinder and J. Lederberg (1952) studied first this process.

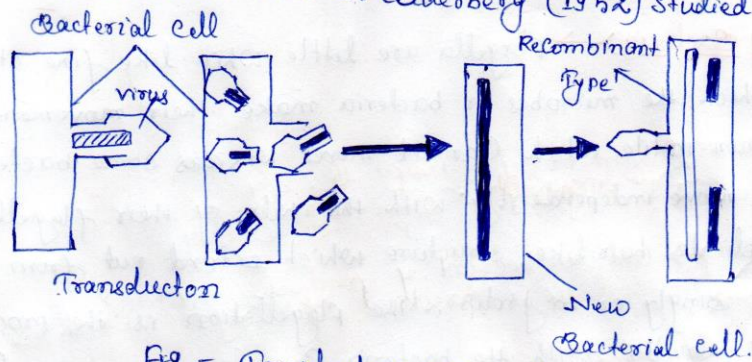


Fig - Transduction in Bacteria.

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Bacterial Transduction

It is a process in which the transfer of genetic material from one bacterial to another bacterium takes place by virus. N. D. Zinder and J. Lederberg (1952) studied first this process.

The process of transduction involves the following steps:

1. A bacterial cell containing a transducing phage.
2. The phage is released from the cell.
3. The phage injects its DNA into a new bacterial cell.
4. The DNA is integrated into the host cell's genome, forming a recombinant type.
5. The new bacterial cell now contains the recombinant DNA.

Date - 03-02-2024.

Department of Botany - B.Sc part-II Hons

E. Copy.

online class. J.J. College, Ara, Dr Sunil Pandit.

Time - 10:00 - 11:00

Question → Give an account of grassland Ecosystem? Group-B. paper-III - Ecology -

Ans → Grassland is a terrestrial type of ecosystem which occupies roughly 19% of the total land area of the earth's surface. The various components of this ecosystem are mentioned below:-

1. Abiotic Components → The abiotic components are the chemical elements like C, H, O, N, P, S, etc. These are the nutrients and supplied by CO_2 , H_2O , NO_3 , PO_4 , SO_4 etc. present in the soil and air, in addition to these some trace elements are also helpful which are present in the soil.

2. Biotic Components:- It comprises components in the form of producers, consumers and decomposers.:-

A. Producers - The producers are chiefly grasses, such as *Archanthium*, *gynolone*, *Desmodium*, *Digitaria*, *Setaria*, *Brachiaria*, *sporobolus* etc. with some forbs and shrubs.

B. Consumers:- The consumers are of two groups:-

Primary Consumers → The primary consumers are the herbivores, such as Cows, Buffaloes, Deer, sheep, Rabbits, Goats, Mouses etc. which graze grass.

Secondary Consumers → The Carnivores are the secondary consumers which feed directly on herbivores, Foxes, Jackals, Snake, Frogs, Lizards, Birds. Come to this group.

C. Decomposers → Bacteria and Fungi are the decomposers which bring about the minerals back to the soil.

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