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**Section. B**

**Final-Term Assignment (Spring-2020) (BS-MLT 2nd Sec-A & Sec-B)**

**Course Title: Basic Microbiology Instructor: Mr. Fazli Zahir Mian**

**Time: 6 Hours**

**Q1: Fill in the Blanks.**

**Answer**

1. \_\_probiotics\_\_\_are live bacteria and yeasts that are good for and have beneficial effects on the host by improving its intestinal microbial balance.
2. Foods containing the combination of probiotics and prebiotics are referred to as\_\_symbiotic\_\_.
3. When a chemical substance inhibits bacterial growth and proliferation is known as \_\_\_\_bacteriostatic\_\_\_\_\_.
4. Microbes that are always present are called \_\_\_\_protzoa\_\_\_\_\_\_.
5. The symbiotic relation in which one organism benefits, the other is neither helped nor harmed is known as \_\_commensalistic relationship\_\_\_\_.
6. \_\_\_\_\_Conjunction\_\_\_\_\_\_is the direct transfer of DNA from one bacterium to another.
7. A genetic structure in a cell that can replicate independently of the chromosomes is known as \_\_pasmid\_\_\_\_\_.
8. The population of microorganisms that live on the skin and mucous membranes of health normal person from birth until death is called \_\_\_\_\_\_normal flora \_\_\_\_\_\_\_.
9. The expression of a gene into a protein occurs by \_\_Transcipt\_\_\_and \_Translation\_\_.

**Q2: What is normal flora, advantages and disadvantages of normal flora?**

**Answer. Normal flora :**

**Normal flora are the microorganisms that live on another living organisms or inanimate object without causing disease. The human body is not sterile, we become colonised by bacteria from the moment we are born. The normal flora helps to prevent us becoming colonised with more dangerous bacteria which might lead to infection.**

**Advantages.**

**1. They constitute a protective host defence nechanism by occupying ecological niches.**

**2. They produce vitamin B and vitamin K in intestine.**

**3. The oral flora contribute to immunity by inducing low levels of circulating and secretory antibodies that may criss react with pathogens.**

**4. The oral bacteria flora exert microbial antagonism against nonindidenous species by production of inhibitory fatty acids, peroxudes, bacteriocins etc.**

**Disadvantages.**

**They can cause disease in the following:**

**A) When individuals become immunocompromised.**

**B) When they change their usual anatomic location.**

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**Q3: Write in detail different stages of Pathogenesis.**

**Answer. Stages of pathogenesis.**

**1. Transmission from the source of unfection into the portal of intry.**

**2. Evasion of primary host defence.**

**3. Adherence to mucous membrane.**

**4. Colonization by growth of the bacteria at the site of adherence.**

**5. Disease symptoms caused by bacterial taxin or invasion.**

**6. Host immune response during steps 3,4,5**

**7. Progession or resolution of the disease.**

**Q4: How the Gene Transfer for one bacterium to another.**

**Answer. Conjugation is a process by which one bacterium transfers genetic material to another bacterium through direct contact. During conjugation, one of the bacterial cells serves as the donor of the genetic material, and the other serves as the recipient.**

**Q5: Write short notes on the following:**

**Answer**

1. Symbiotic relationship:

Symbiosis:- The relationship between two organisms living together in close association, be it matualistic, commensalitic, or parasitic. The organisms each termed a symbiint, may be of the same or of the different species.

1. Antimicrobial drug:- A drug used to treat a microbial infection. It is general term term that refers to a group of drugs that includes antibiotics,antifungals,antiprotozoals and antivirals.
2. Antimicrobial resistance :- Antimicrobial resistance happens when microorganisms (such as antibiotics, antifungals,antivirals,antimalarials,and anthemintics)

Microorganisms that develop antimicrobial resistance are sometimes reffered to as "superbugs".

1. Probiotics:- Probiotics are live bacterua and yeasts that are good for our health, especially our digestiy system. We usally think af these as germs that cause duseases. But our body is full of bacteria,both goid and bad. Orobiitics are often calked "good" or "helpful" bacteria because they help because they keeps our gut healthy
2. Prebiotic:- prebiotic was described as " a non digestible food ingredient that beneficially affects the host by sekectively stimulating the growth and activity of one or a limited number of bacteria in the colon and thus improves host health.

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Good luck.