

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

Name abdur Rahman

I'd 16870

Paper micro biology

Semester 2nd

Time: 6 Hours

Q1: Fill in the Blanks.

- 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 protozoa.
- 5) The symbiotic relation in which one organism benefits, the other is neither helped nor harmed is known as commensalism.
- 6) conjugation 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 plasmid.
- 8) The population of microorganisms that live on the skin and mucous membranes of health normal person from birth until death is called normal microbial flora.
- 9) The expression of a gene into a protein occurs by transcription and translation.

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

Ans; Normal flora are micro organism, mostly bacteria that continuously inhibited the human body under normal conditions and a healthy human they are harmless and may even be beneficial.

. Also called commensals I. e. Organisms that dine together.

The normal flora advantages

-----1 they constitute a protective host defense mechanism 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 cross react with pathogens.

4. the oral bacterial flora exert microbial antagonism against nonindigenous species, why production of inhibitory fatty acids, peroxides, bacteriocins, etc

2; Disadvantages of the normal flora

-----1. They can cause diseases in the following :

- a) When individuals become immune compromised
- b) when did change the usual anatomic location.
- c) Body odour
- d) Body odour Architects from the skin
- e) decomposition of secretion of apocrine sweat gland located primarily under arms and groin
- f) *Corynebacterium tenius* and *C. Xerosis* in particular
- g) best eliminated through good hygiene
- h) fungal infection such as athlete's foot also odorous

Q3: Write in detail different stages of Pathogenesis.

Ans ;stages in pathogens "

1 Inoculation

2 penetration

3 Infection

4 Growth and reproduction

5 Dissemination of pathogens

1 Inoculation

----- The arrival of pathogens on the host

2 penetration

----- pathogens are categorized according to their mode of penetrating plant surface into

1. Active pathogens. Where pathogens can penetrate directly into plants cell walls. Through Natural opening or through wounds

2 passive pathogens,

-----Where pathogens can only penetrate host surface and cell walls, through Natural opening or through wounds

. Bacteria enter plants mostly through wounds, less frequently through Natural opening and never directly through on broken cell walls

3. Infections ;

-----" establishment pathogens with vulnerable cells or tissue of the host obtain the nutrients from them

" successful infection will produce symptoms

4. Growth and reproduction "

-----" The pathogens will grow multiply within the infected host.

" . Fungi _ spores

" virus is replicated by the cell

" Neematodes _ reproduce by means of eggs

" 4. growth and reproduction

5. Dissemination of pathogens

-----" pathogens are disseminated by several ways

" by air

while airborne _ spores touch wet surface_ get trapped _ pair movement stops/rains_
washed out

; from the air_ brought down by Rain drops

"winds also help spreading by blowing away rain splash droplets containing pathogens

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

Ans. Transduction involves the transfer of either a chromosomal DNA fragment or a plasmid from one bacterium to another by a bacteriophage. Conjugation is a transfer of DNA from a living Donor bacterium to a living recipient bacterium by cell to cell contact. In Gram Negative bacteria it involves a conjugation plus.

Q5: Write short notes on the following:

1. Symbiotic relationship
2. Antimicrobial drug
3. Antimicrobial resistance
4. Probiotics
5. Prebiotic

Ans1. symbiotic relationships.

----- Symbiosis refers to relationship between organisms of different species that show intimate association with each other. Symbiotic relationships provide at least one of the participating species with a nutritional advantage. 3 types of symbiosis have been recognised depending on the nature of the relationship :

_parasitism

_commensalism

_mutualism

2. Antimicrobial drugs

-----Chemotherapy : the use of drug to treat diseases

. Antimicrobial drug:interfere with the growth of Microbes within a host

. Antibiotics : a substance produced by a microbe that in small amounts inhabit another microbe

. Selective tax City: a drug That Kills harmful microbes without damaging the host

3.Antimicrobial resistance : mechanism of antimicrobial resistance microorganism generally resist of antimicrobial agents by (1) interfering with stereospisific requirement necessary for binding of the drug to its target site, (2) destroying or alternating the conformational integrity of the drug, or (3) preventing from attending in effective concentration at its site of actionThe stereospisific requirements that must be met for antimicrobial Agents to interact with target receptors can be disrupted by mutations that produce structural change to ribosomal.

4.probiotics:

-----probiotics are live bacteria and yeasts that are good for you specially you are digestive system. We usually think of these as germs that cause disease. But your body is ful of bacteria, both good and bad. Probiotics are often "good" or "helpful" bacteria because they help keep your gut healthy.

5.prebiotic.

----- probiotics are compound and food that induce the growth are activity of beneficial microorganisms such as bacteria in fungi. The most common example gestrointestinal tract, where probiotics can alter the composition of organisms Microbiome

GOOD LUCK.