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Ans no3:- Stage of pathogenesis:-

- 1) Pathogenesis is the method by which a diseases can develop.
- 2) This can occur through foodborne intoxication where the causative agent produce toxin in the body(e.g butilism).
- 3) Another route is the colonization of an invading pathogen on the hoste surface,(e.g vibrio and corynebacterium).
- 4) Pathogenesis can also occur by pathogen invading and breaching the body's barrier in order to multify (e.g tuberculosis and plague).
- 5)The relationship between a host and pathogen is dynamic.
- 6) Production of diseases occur through a process of steps.

Ans no4:- Gene transfer from one bacterium to another:-

Horizontally gene tansfer may occur via three main mechanism transformation, transduction or conjugation. Transformation involves uptake of short fragments of naked DNA by naturally transformable bacteria. Transduction involve tansfer of DNA from one bacterium into via another bacteriophage.

Ans no2:- Normal Flora:-

- 1)Normal Flora (indigenous micrbiota)are microbe regularly found at particular region of the body.
- 2) Resident flora are life- long member present at certain anatomical sites.
- 3) Transient microbe are unable to colonize the body for longer period.
- 4) The composition of normal flora change with age, sex, diet, development and environment.

Advantages of normal flora:-

- 1) Prevent colonization by pathogen.
- 2) Secreate vitamin K and B12.
- 3)Stimulate antibody-mediate immune response.
- 4)Anhabit and kill pathogen by production of enzyme (peroxide , bacteriocin).

Disadvantage of normal Flora:-

- 1) Can act as opertunistic pathgen.
- 2) Gain access to axenic tissues.
- 3)Can share nutrients and drug resistance with pathogen.
- 4)May ba a sources of infections to other individuals.

Ans no5:- a) Symbiotic relationship:-

Symbiotic relationships are a special type of interaction between species. Sometimes beneficial and some time harmful, these relationships are essential to many organisms and ecosystems, and they provide a balance that can only be achieved by working together.

Antimicrobial drugs:-

b) Antimicrobial as an agent that kill microorganisms or stop their growth.

Antimicrobial medicine can be grouped according to the microorganisms they act primarily against. For example antibiotics are used against bacteria and antifungals are used against fungi.

c) Antimicrobial resistance:- Antimicrobial resistance occurs when microorganisms such as bacteria, viruses, fungi, and parasites change in ways that render the medications used to cure the infections they cause ineffective. When the microorganisms become resistant to most antimicrobials they are often referred to as superbugs.

d) Probiotics:- Probiotics are live bacteria and yeast that are good for you especially your digestive system. We usually thank up these as that causes diseases. But your body is full of bacteria both good and bad. Probiotics are often called "good" or "helpful" bacteria because they help keep your guts healthy.

Ans no1:- Fill in the blanks?

- 1) Probiotics .
- 2) Symbiotic .
- 3) Bacteriostatic.
- 6) Conjugation.
- 7) Plasmid.
- 8) Normal microbial flora.
- 9) Transcription and Translation.
- 4) Pathogens.
- 5) Commensalism.

The End