

### 1. What are the microorganisms and Microbiology?

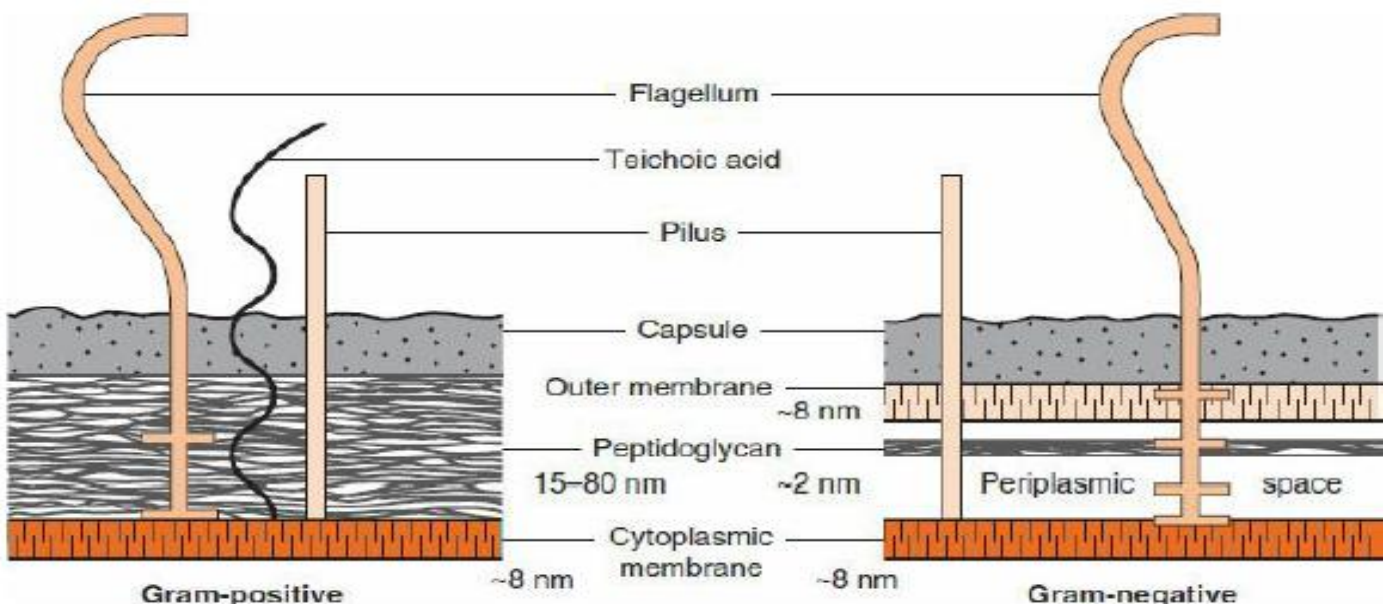
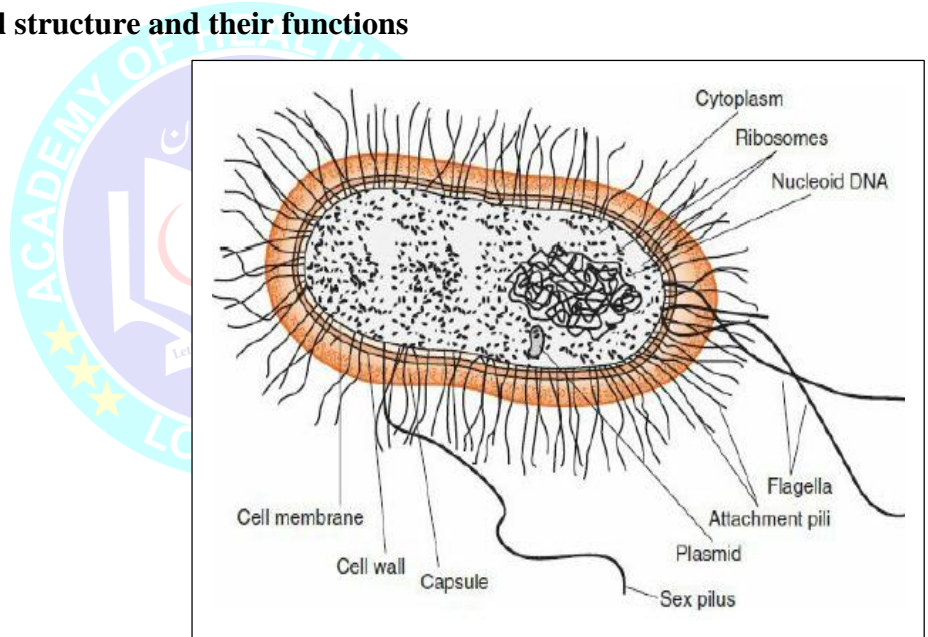
	Virus	Bacteria	Fungi	Protozoa/Helminthes
<b>Cell</b>	Acellular	Cellular	Cellular	Cellular
<b>Nucleus</b>	Absent	Absent	Present	Present
<b>Nucleic acid</b>	DNA/RNA	DNA&RNA	DNA&RNA	DNA&RNA
<b>Ribosomes</b>	Absent	Small	Large	Large
<b>Mitochondria</b>	Absent	Absent	Present	Present
<b>Motility</b>	Absent	Motile/nonmotile	Mostly nonmotile	Motile

### 2. What is the difference between Prokaryotes and Eukaryotes?

	Prokaryote	Eukaryote
<b>Nucleus</b>	Absent	Present
<b>Membrane bounded organelles</b>	Absent	Present
<b>Ribosomes</b>	Small	Large
<b>Mitosis</b>	Absent	Present
<b>Chromosome number</b>	Not specific	Specific

### 3. Describe the basic bacterial cell structure and their functions

- Cell membrane
- Cell wall
- Capsule
- Nucleosome
- Ribosomes
- Mesosomes
- Flagella
- Fimbriae/Pilli
- Miscellaneous parts





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### 4. Classification of bacteria

On the basis of	Types	Description	Examples
Morphology	Cocci	Round in shape	Staphylococci, streptococci
	Bacilli	Rod in shape	E.choli
	Coccobacilli	Oval in shape	H. Influenzae
	Vibrios	Comma shape	V. cholerae
	Spirocheates	Spring shape	T. Pallidum
Oxygen requirements	Aerobes	Need oxygen for growth	Pseudomonas
	Anaerobes	Need no oxygen for growth	Clostridium
	Facultative anaerobes	Can grow in both conditions	Proteus
	Capnophiles	Need carbon dioxide and oxygen	Meingococci
	Microaerophilic	Need a little amount of oxygen	Campylobacter
pH requirements	Alkalophiles	Need alkaline pH	V. cholerae
	Acidophiles	Need acidic pH	Lactobacillus
	Neutrophils	Need neutral pH	Gonococci
Temperature requirements	Psychrophiles	Grow in cold temperature	
	Thermophiles	Grow in high temperature	
	Mesophiles	Grow at room temperature	All medically important bacteria
Flagella	Atrichous	Have no flagella	Staphylococci
	Monotrichous	Have one flagella	Pseudomonas
	Lophotrichous	Have tuft of flagella on one side	
	Peritrichous	Have flagella on its all sides	E.choli
	Amhitrichous	Have flagella on both ends	
Spore formation	Spore forming	Make sopes	Clostridium, B.anthraces
	Non spore former	Don't make spores	All others
Capsule	Capsulated	Make capsule	Pseudomonas
	Non capsulated	Don't make capsule	Gonococci