

# B.SC. III SEMESTER PAPER :: BOT-231

## MICROBIOLOGY

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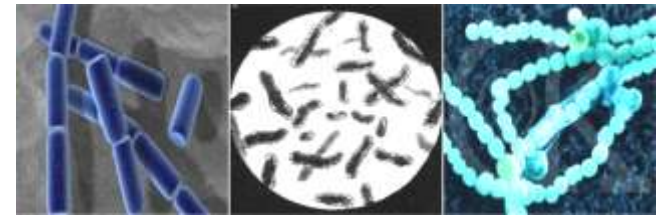
Department of Botany, Pasighat  
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# CHARACTERISTIC FEATURES OF DIFFERENT GROUPS OF MICROORGANISMS

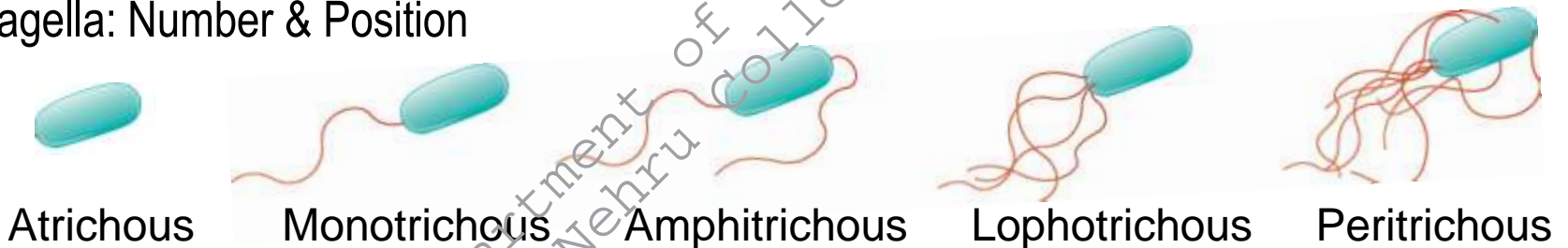
1. Archaeobacteria
2. Eubacteria
  - a. Actinomycetes
  - b. Mycoplasmas

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# BACTERIA

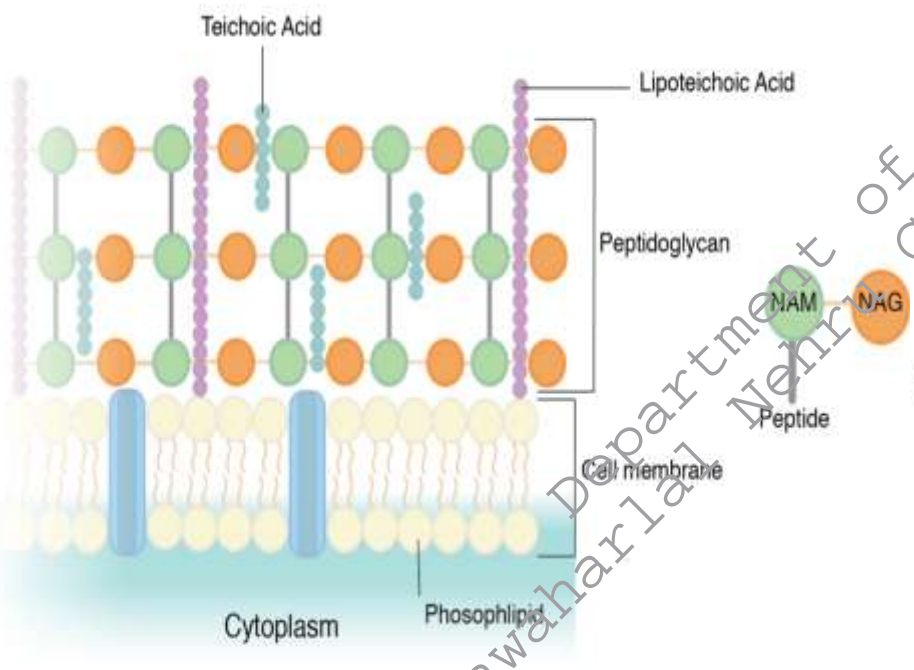
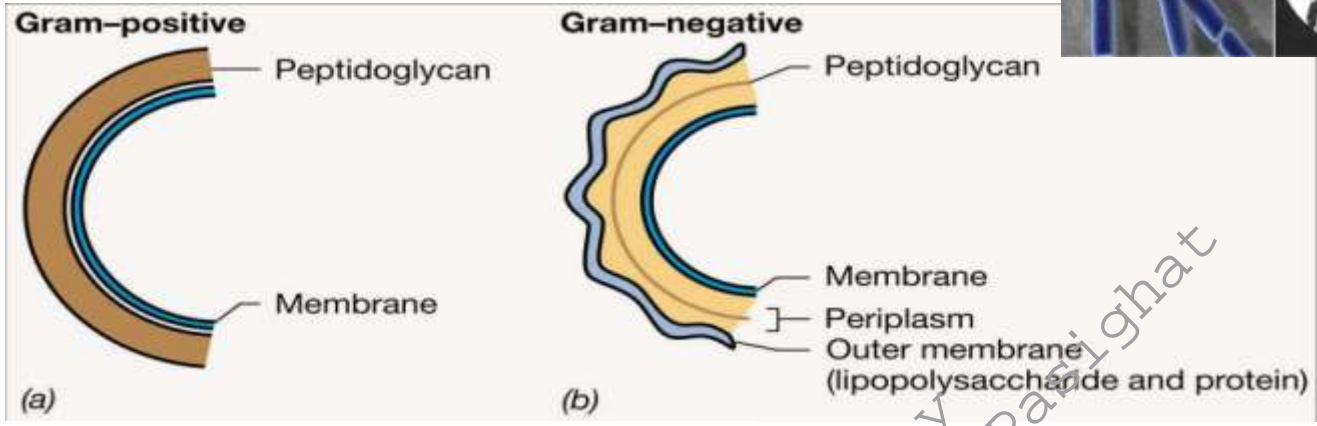
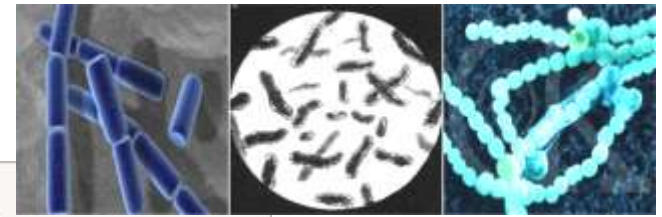


- constitute a large domain of prokaryotic microorganisms. Believed to be among the first life forms to appear on Earth, and are present in most of its habitats.
- Size : 0.5  $\mu\text{m}$  – 2.0  $\mu\text{m}$ .
- Shape: Rod shaped (Bacillus), Spherical (Coccus), Spiral (spirilla), helicoid (*vibrios*).  
*Mono-, diplo-, strepto-(long chain), tetra-, staphylo- (aggregate).*
- Gram staining : peptidoglycan layer in cell wall.
- Flagella: Number & Position

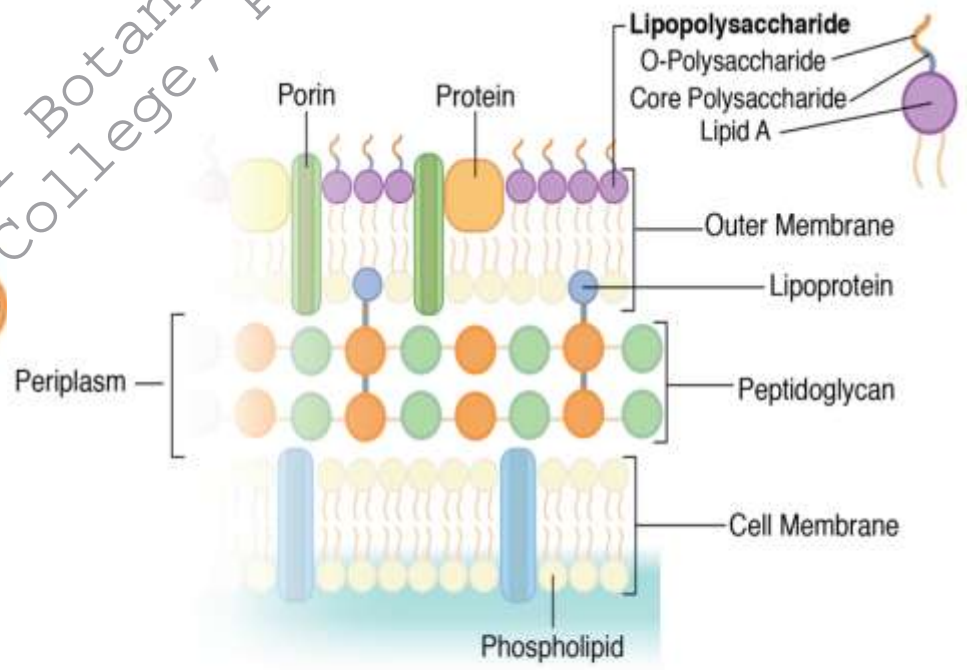


- Nutrition: Autotrophic – *phototrophic, chemosynthetic (sulphur, hydrogen)*  
Heterotrophic – *parasitic / saprophytic / symbiotic*
- Habit & Habitat: *Acedophile, Halophile, Lithophile, Mesophile, Thermophile, etc*

# BACTERIA

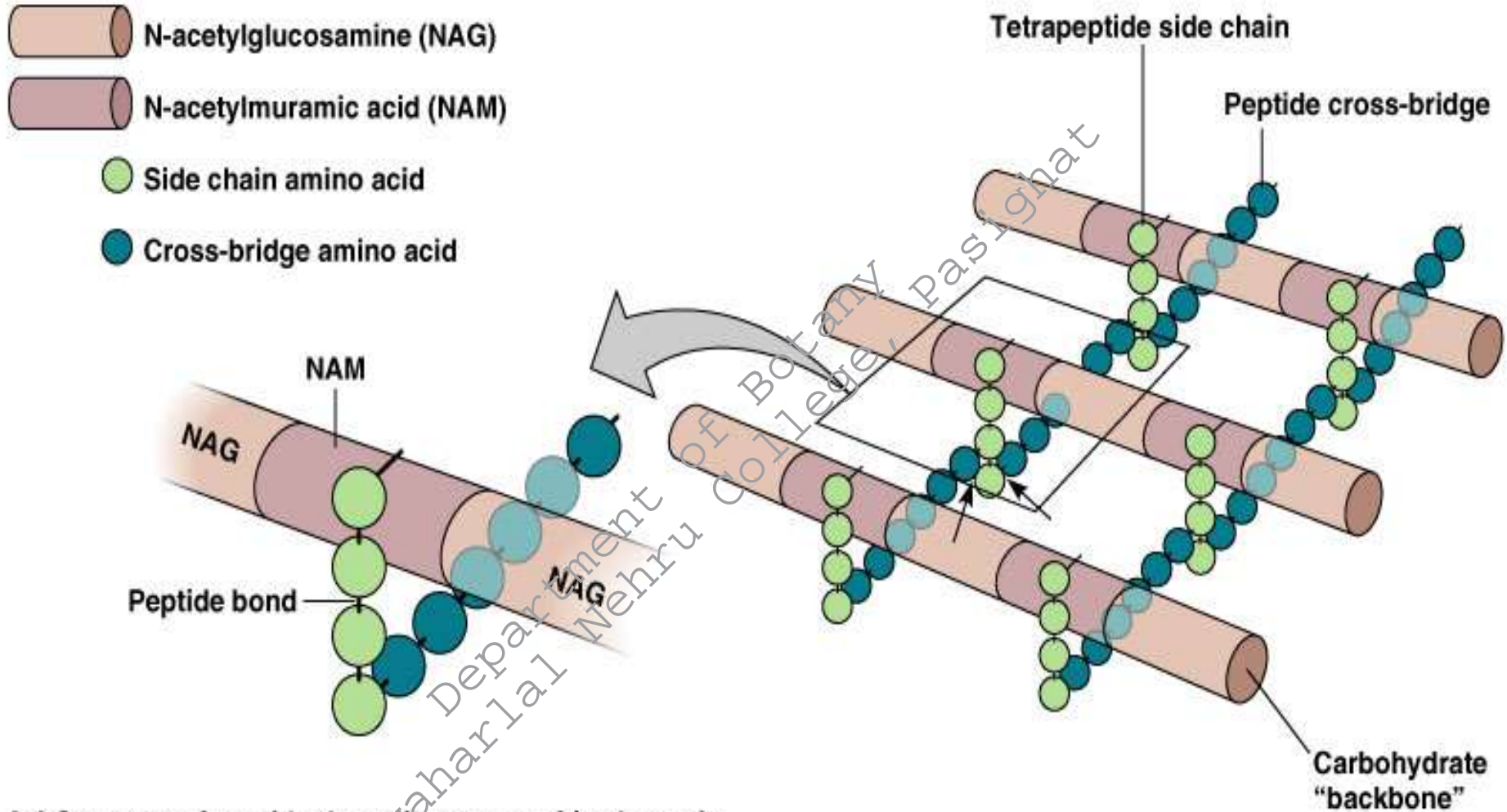


Gram Positive Bacteria Cell Wall



Gram Negative Bacteria Cell Wall

# PEPTIDOGLYCAN LAYER



**(a) Structure of peptidoglycan in gram-positive bacteria**