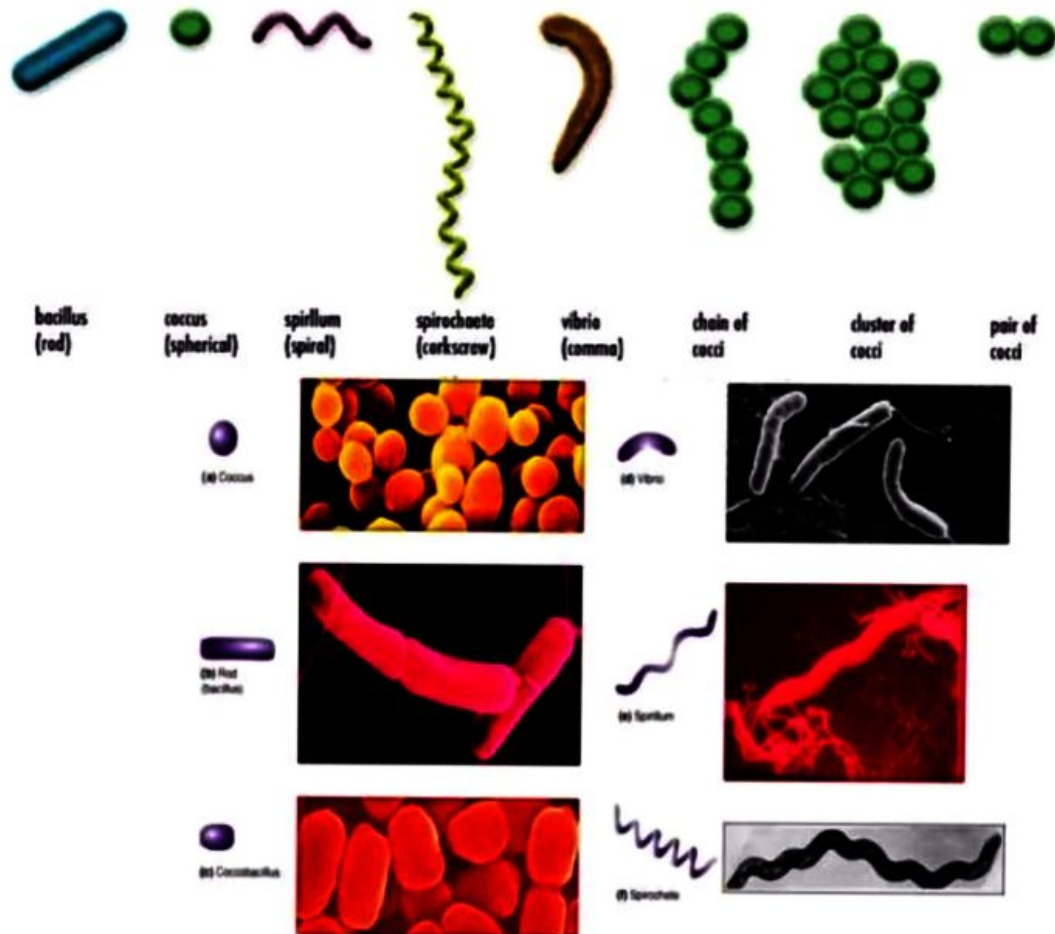




Viruses

Size:

0.015-0.2 μm

Important Characteristics:

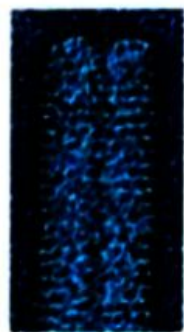
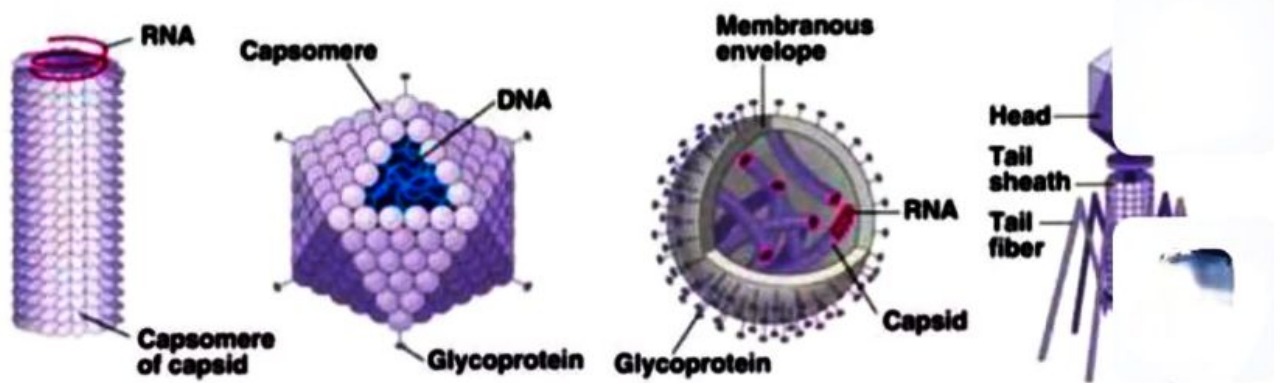
- Do not grow on artificial media
- Obligate intracellular parasites
- Electron microscopy required to observe

Practical significance:

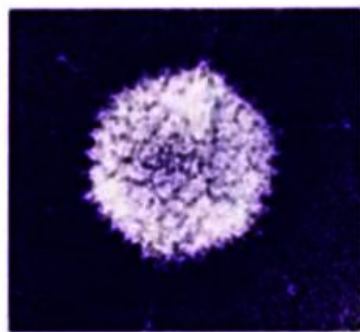
- Cause diseases in humans animals & plants
- Also infect microorganisms like bacteria

Examples:

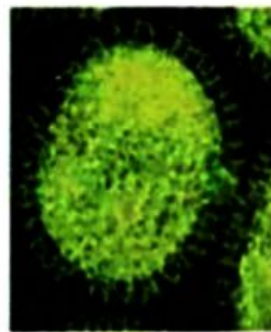
Rabies virus, Polio virus, Influenza virus, HIV, Corona virus, T-even bacteriophage, etc.



(a) Tobacco mosaic virus
10 nm



(b) Adenoviruses
50 nm



(c) Influenza viruses
50 nm



(d) Bacteriophage T4
50 nm

Fungi (Yeasts)

Size:

5.0-10.0 μm

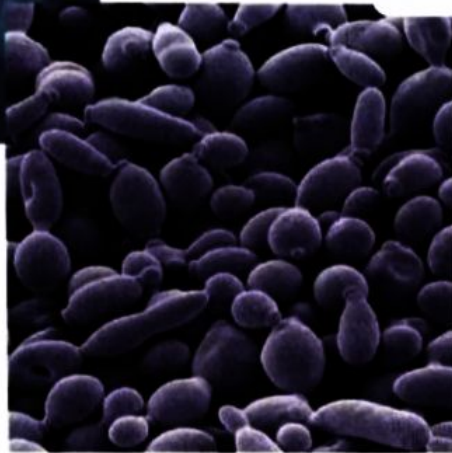
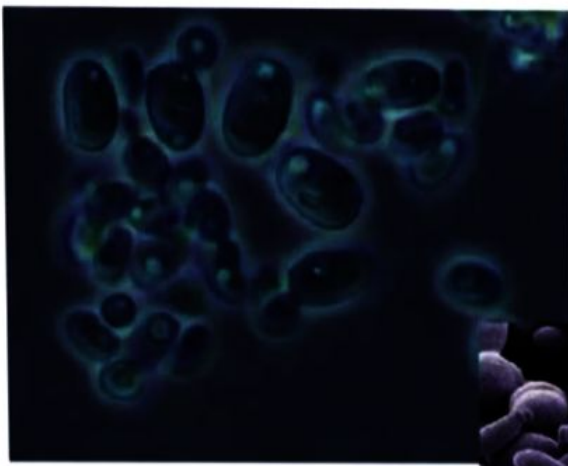
Important Characteristics:

- Eukaryotic & Non-motile
- **Unicellular**
- Grow on artificial laboratory media
- Reproduction asexual (cell division/ budding) or sexual
- Have Rigid Cell wall Made up of Chitin, Cellulose

Practical significance:

- Some cause diseases like Athlete's foot, thrush
- some are used as food supplements
- Manufacture of alcoholic beverages

Examples: *Saccharomyces Cerevisiae* ,etc



Fungi (Molds)

Size:

2.0-10.0 μm by several mm some are visible with naked

Important Characteristics:

- Eukaryotic & Non-motile
- **Multicellular**
- • Many distinctive structural features (Filamentous str showing Vegetative mycellium & Aerial mycellium)
- Cultivated on artificial laboratory media
- Have Rigid Cell wall Made up of Chitin, Cellulose
- Reproduction asexual or sexual

Practical significance:

- Decomposition of many materials
- Industrial production of many chemicals like antibiotics
- Can cause diseases, penicilliosis, otomycosis.

Examples: Penicillium notatum, Aspergillus niger, etc.

