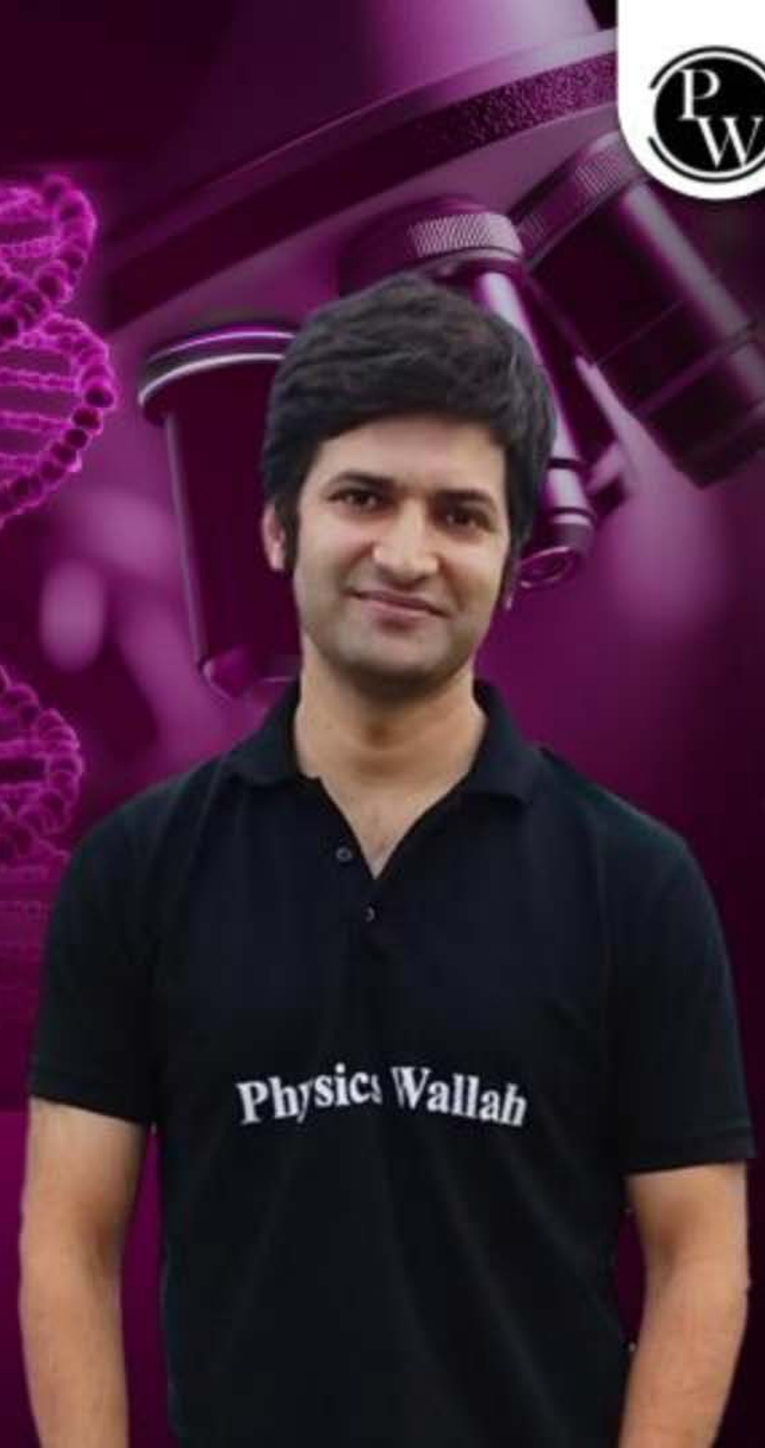
PRACHAND NEET

ONE SHOT

Botany

Biological Classification



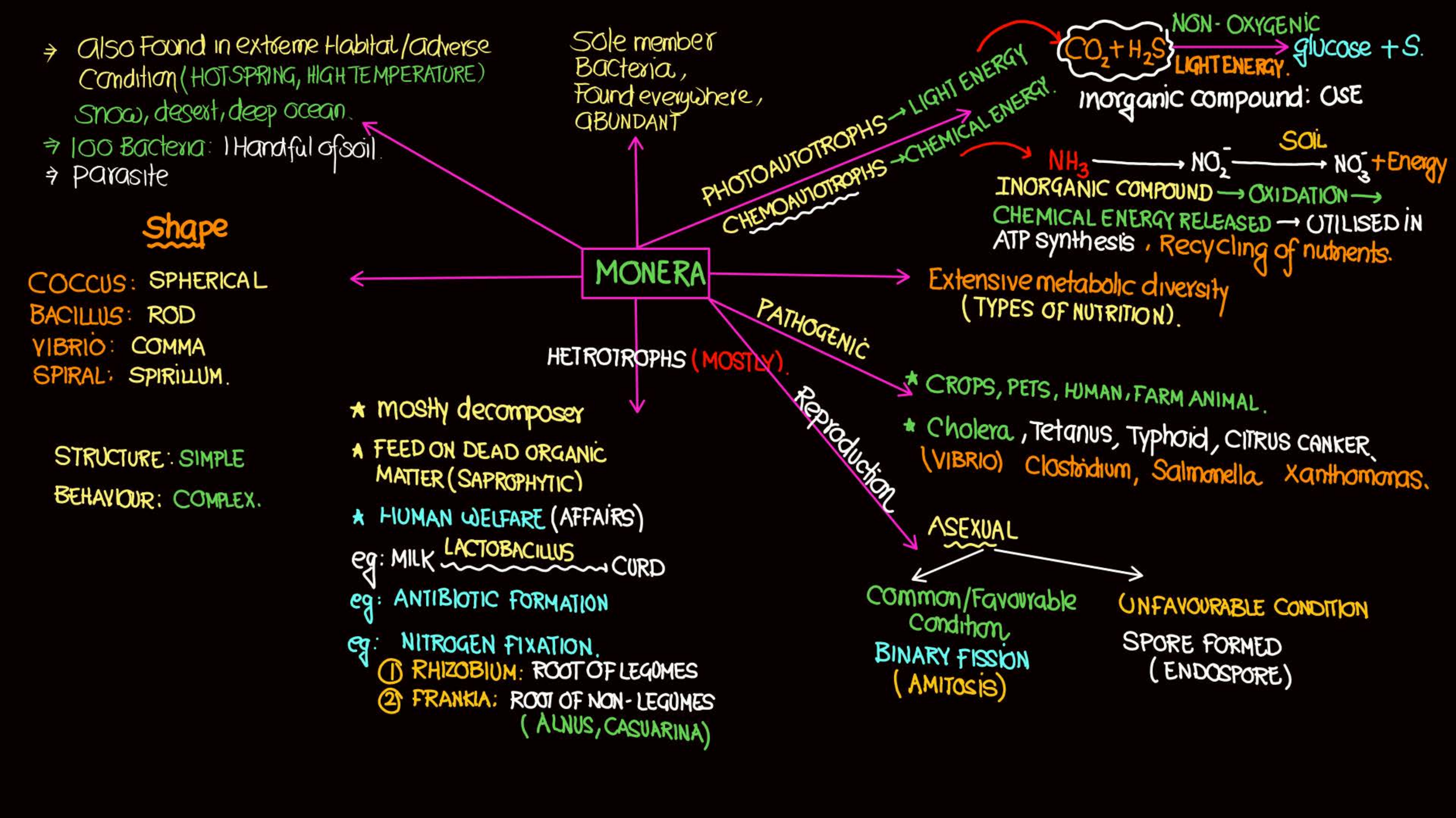
Rupesh Chaudhary Sir

Topics *to be covered*

1. Biological Classification

PRACHAND SERIES

TELEGRAM CHANNEL


⇒ Also Found in extreme Habitat/adverse Condition (HOTSPRING, HIGH TEMPERATURE) Snow, desert, deep ocean.
⇒ 100 Bacteria: 1 Handful of soil.
⇒ parasite
Sole member Bacteria, Found everywhere, ABUNDANT
PHOTOAUTOTROPHS → LIGHT ENERGY
CHEMOAUTOTROPHS → CHEMICAL ENERGY.
$CO_2 + H_2S$
NON-OXYGENIC
LIGHT ENERGY.
glucose + S.
Inorganic compound: use
NH_3 → NO_2^- → NO_3^- + Energy
SOIL
INORGANIC COMPOUND → OXIDATION →
CHEMICAL ENERGY RELEASED → UTILISED IN ATP synthesis, Recycling of nutrients.
Shape
COCCUS: SPHERICAL
BACILLUS: ROD
VIBRIO: COMMA
SPIRAL: SPIRILLUM.
STRUCTURE: SIMPLE
BEHAVIOUR: COMPLEX.
MONERA
Extensive metabolic diversity (TYPES OF NUTRITION).
HETROTROPHS (MOSTLY).
PATHOGENIC
Reproduction
★ MOSTly decomposer
★ FEED ON DEAD ORGANIC MATTER (SAPROPHYTIC)
★ HUMAN WELFARE (AFFAIRS)
eg: MILK LACTOBACILLUS CURD
eg: ANTIBIOTIC FORMATION
eg: NITROGEN FIXATION.
① RHIZOBIUM: ROOT OF LEGUMES
② FRANKIA: ROOT OF NON-LEGUMES (ALNUS, CASUARINA)
★ CROPS, PETS, HUMAN, FARM ANIMAL.
★ Cholera, Tetanus, Typhoid, CITRUS CANKER. (VIBRIO) Clostridium, Salmonella Xanthomonas.
ASEXUAL
Common/Favourable Condition
BINARY FISSION (AMITOSIS)
UNFAVOURABLE CONDITION
SPORE FORMED (ENDOSPORE)

⇒ SORT OF SEXUAL REPRODUCTION
(PRIMITIVE METHOD OF DNA TRANSFER)

eg: CONJUGATION

MYCOPLASMA

- ★ SMALLEST LIVING CELL
- ★ CELL WALL ABSENT, NO DEFINITE SHAPE (PLEOMORPHIC)
- ★ CAN SURVIVE WITHOUT O_2.
- ★ INFECTION IN PLANT & ANIMAL.
- ★ CAN PASS THROUGH BACTERIAL FILTERS.

ARCHAEBACTERIA

MONERA → EUBACTERIA: BACTERIA (TRUE BACTERIA)
MONERA → ARCHAEBACTERIA (PRIMITIVE / ANCIENT BACTERIA)

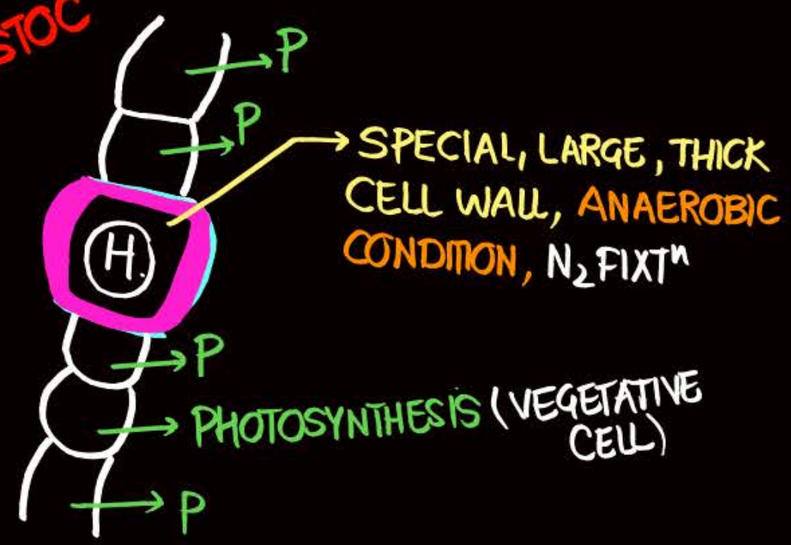
★ CELL WALL DIFFERENT (PSEUDOMUREIN) ⇝ SURVIVE IN ADVERSE/HARSH/UNFAVOURABLE CONDITION.

- HALOPHILES (EXTREME SALT/SALINE CONDITION).
- THERMOACIDOPHILES (HOT SPRING)
  - ⇒ HIGH TEMP,
  - ⇒ ACIDIC CONDITION
- METHANOGENS.
  - ⇒ MARSHY AREA.
  - ⇒ CATTLE → STOMACH → RUMEN.
  - ⇒ GOBAR/DUNG → BIOGAS PRODUCED (CELLULOSE, CH_4 PRODUCING BACTERIA)

CYANOBACTERIA
BLUE GREEN ALGAE

- Oxygenic photosynthesis
- UNICELLULAR, COLONIAL, FILAMENTOUS.
- FRESH H_2O, MARINE H_2O, TERRESTIAL.
- $CO_2 + H_2O$ ⇝ glucose
- Chla, carotene + xanthophyll → CAROTENOIDS
- Excessive growth of BGA IN POLUTED H_2O: WATER BLOOM.
- SPIRULINA: FILAMENTOUS, BGA, RICHEST SOURCE OF PROTEIN, SPACE FOOD.
- NOSTOC, ANABAENA (FILAMENTOUS BGA)
  - SPECIAL CELL (NITROGEN FIXTATION) HETROCYST)
  - $N_2 \longrightarrow 2NH_3$.

NOSTOC



→ SPECIAL, LARGE, THICK CELL WALL, ANAEROBIC CONDITION, N_2 FIXTN

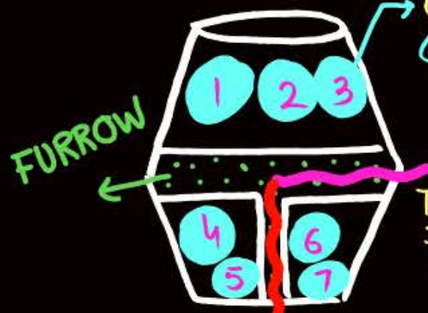
→ PHOTOSYNTHESIS (VEGETATIVE CELL)

PROTISTA

- ★ UNICELLULAR EUKARYOTES.
- ★ MEMBERS: MOSTLY AQUATIC
- ★ MEMBRANE BOUND ORGANELLE PRESENT
- ★ NUCLEUS PRESENT
- ★ SHOW CHARACTER OF PLANT, ANIMAL, FUNGI
- ★ BOUNDARIES NOT WELL DEFINED
- ★ SOME BIOLOGIST
  - PLANTS
  - PHOTOSYNTHETIC PROTISTAN.
- ★ ASEXUAL (BINARY FISSION)
- ★ GAMETE/CELL FUSION (FERTILISATION) → ZYGOTE FORMATION
- ★ SOME HAVE CILIA/FLAGELLA.

DINOFLAGELLAES

- ★ MOSTLY MARINE, PHOTOSYNTHETIC,
- ★ BLUE, BROWN, RED, GREEN, YELLOW DEPENDS UPON PIGMENT

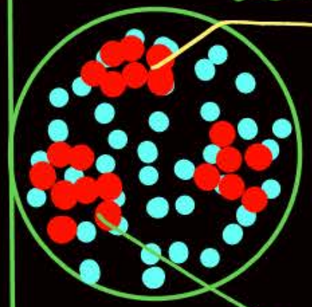


OUTER SURFACE CELLULOSE PLATES

FURROW

TRANSVERSE FLAGELLA.

LONGITUDINAL FLAGELLA

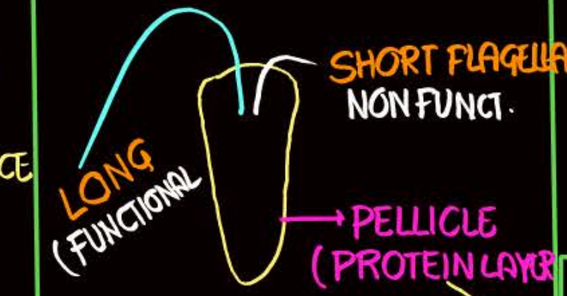


RED COLOUR (GONYAULAX: MORE IN NUMBER, FAST REPRODUCTION/MULTIPUCATION) (PIGMENTS ✓)

RED TIDE.

TOXIN PRODUCE → HARMFUL FOR FISHES.

EUGLENOIDS



⇒ CELL WALL ABSENT

⇒ BODY FLEXIBLE

⇒ FRESH H_2O (STAGNANT H_2O)

⇒ Chl a, b (pigments similar to HIGHER PLANT).

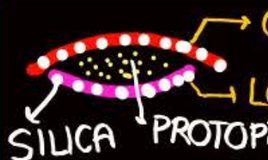
⇒ LIGHT PRESENT: AUTOTROPHS PHOTOSYNTHESIS

⇒ LIGHT ABSENT: FEED ON SMALL ANIMALS, HETROTROPHS.

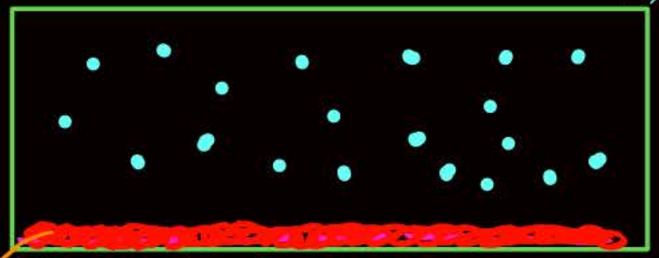
⇒ TWO MODES OF NUTRITION.

CHRYSOPHYTES

- ★ DIATOMS & DESMIDS (GOLDEN ALGAE)
- ★ FRESH H_2O, MARINE H_2O, MOSTLY PHOTOSYNTH.
- ★ MOVEMENT: ROLE: H_2O CURRENT (PLANKTON) (PASSIVE).
- ★ MAIN PRODUCER IN OCEAN. (DIATOMS)



CELL WALL, THIN, OVERLAPPING, SOAP BOX INDESTRUCTIBLE (NOT DAMAGE)



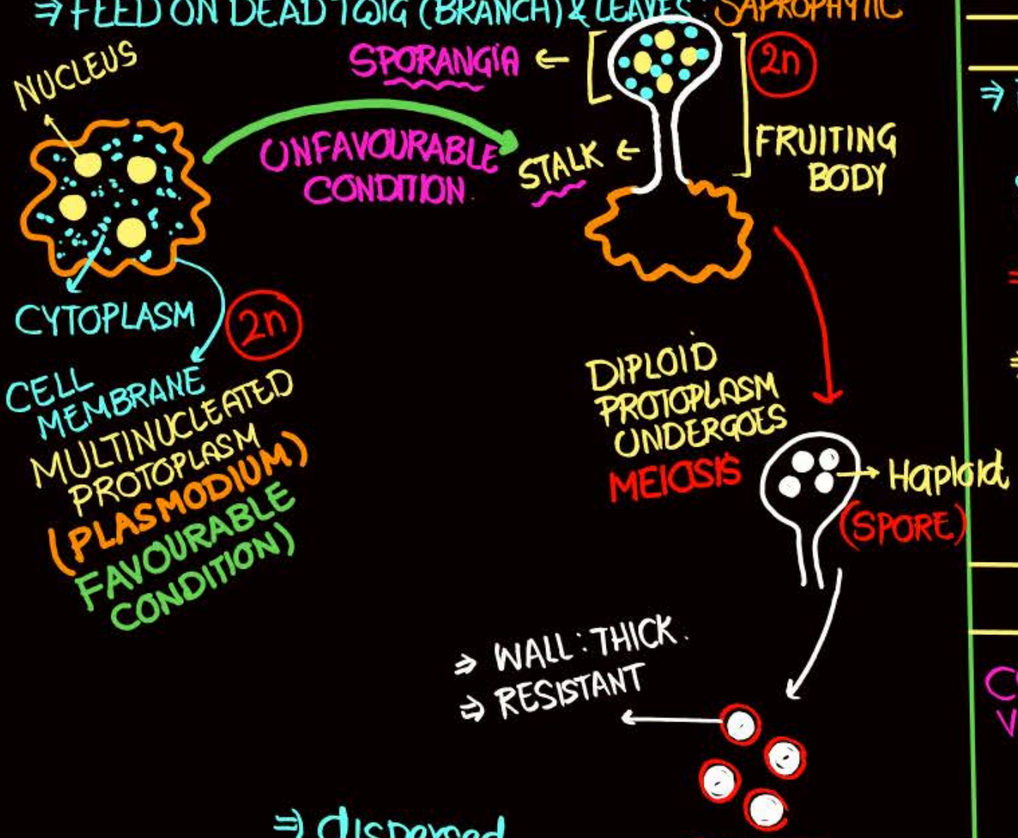
CELL WALL OF DIATOM DEPOSITED AT BOTTOM OF OCEAN., BILLIONS OF YEAR.

→ DIATOMACEOUS EARTH / DIATOMITE

- FILTERATION OF OIL & SYRUPS.
- GRITTY
- POLISHING OF METAL.

SLIME MOULD

⇒ FEED ON DEAD TWIG (BRANCH) & LEAVES : SAPROPHYTIC



PROTOZOA : PRIMITIVE RELATIVE OF ANIMAL, ALL HETROTROPHS (PREDATOR & PARASITE), CELL WALL ABSENT

AMOEBOID

⇒ FRESH H_2O, SEA H_2O, MOIST SOIL.

⇒ TEMPORARY / FALSE FEET : LOCOMOTION, FOOD CAPTURE.

⇒ MARINE FORMS COVERED BY SILICA SHELL.

ENTAMOEBA (PARASITE) : DYSENTARY (CONTAMINATED H_2O & FOOD)

FLAGELLATED

⇒ FREE LIVING / PARASITE, FLAGELLA

⇒ TRYPANOSOMA (Tse-tse Fly)

↓

BITE HUMAN

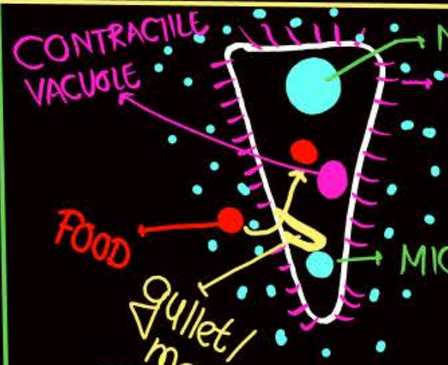
↓

RELEASE TRYPANOSOMA

↓

SLEEPING SICKNESS

CILIATED (PARAMECIUM), aquatic



H_2O CURRENT PRODUCE

↓

H_2O + FOOD ENTER INTO IT

↓

EXCESS H_2O REMOVE WITH HELP OF CONTRACTILE VACUOLE (OSMOREGULATION)

SPOROZOAN.

* PLASMODIUM (NOTORIOUS) ⇒ Malaria

↓

LIFE CYCLE (infectious spore)

↓

Staggering (Harmful effect on human)

FUNGI

- ⇒ EDIBLE : MUSHROOM (AGARICUS)
- ⇒ NON EDIBLE : TOXIC (TOAD STOOL)

- ⇒ ALBUGO : WHITE SPOT (MUSTARD PLANT)
- ⇒ PUCCINIA : WHEAT : RUST DISEASE
- ⇒ USTILAGO : SMUT DISEASE

- ⇒ MOSTLY MULTICELLULAR, APPEAR LIKE FILAMENTOUS. BUT YEAST (UNICELLULAR), USE : BREWING INDUSTRY (WINE, BEER) BAKER'S YEAST.
- ⇒ CELL WALL : CHITIN (POLYSACCHARIDE)

- ⇒ ANTIBIOTIC SOURCE : PENICILLIN
- ⇒ HETROTROPHS.
  - ★ SAPROPHYTIC (DEAD DECAYING MATTER FEED)
  - ★ PARASITIC
  - ★ SYMBIOTIC
    - a) LICHEN : ALGAE + FUNGI
    - b) MYCORRHIZA : ROOT OF HIGHER PLANT + FUNGI

★ AIR, H_2O, soil, Plants, animals, BREAD, ROTTEN FRUIT (DIVERSITY IN HABITAT)
★ WARM, HUMID PLACE : PREFER TO GROW.

PARASTIC

SEPTA.

SEPTATE MYCELIUM/ HYPHAE

ASEPTATE MYCELIUM

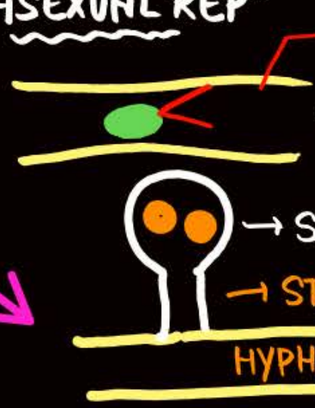
- ⇒ LONG, SLENDER THREAD LIKE STRUCTURE : HYPHAE
- ⇒ THESE HYPHAE CRISS CROSS TO FORM : MYCELIUM

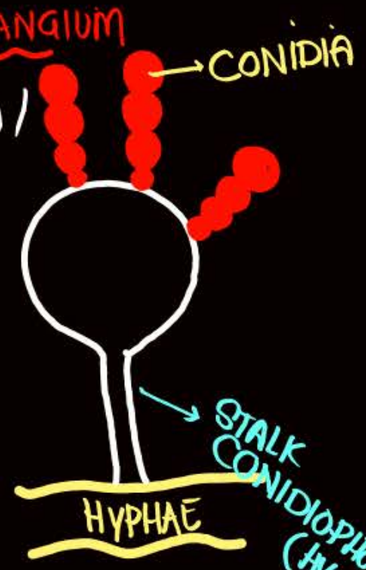
DIVERSITY IN MORPHOLOGY OF MYCELIUM

- ⇒ TUBE, SEPTA : ABSENT
- ⇒ MULTINUCLEATED PROTOPLASM
- ⇒ COENOCYTIC

ASEXUAL REP^{n}

a) ZOOSPORE : MOTILE, ENDOGENOUS
b) APLANOSPORE : ENDOGENOUS, NON MOTILE.
c) CONIDIA : NON MOTILE, EXOGENOUS.





VEGETATIVE

- ⇒ BINARY FISSION
- ⇒ FRAGMENTATION
- ⇒ BUDDING.

PHYCOMYCETES

CLASSIFICATION: FRUITING BODY, SPORE FORMATION, MORPHOLOGY OF MYCELIUM.

⇒ Aquatic, Feed on dead decaying (moist, damp placed, parasite
Obligate (Albugo in MUSTARD.

⇒ ASEPTATE, COENOCYTIC, MYCELIUM.

⇒ ASEXUAL: ZOOSPORE (MOTILE), APLANOSPORE (NON MOTILE)

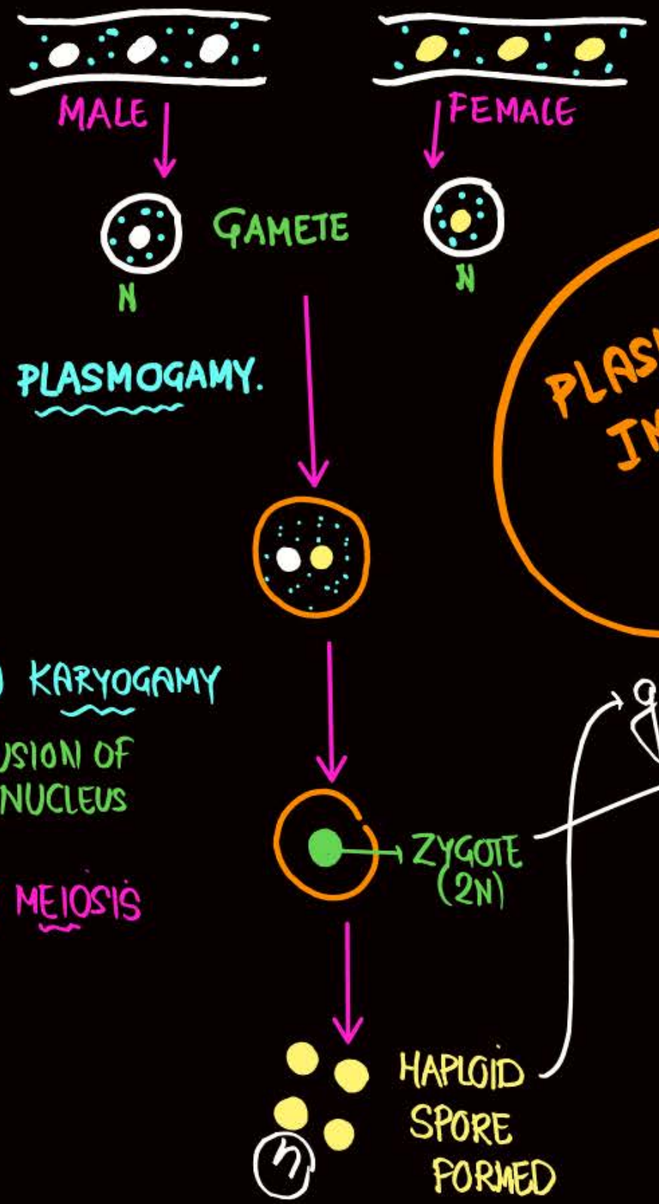
⇒ ISOGAMOUS (BOTH MALE & FEMALE GAMETE MORPHOLOGICAL SIMILAR), ANISOGAMOUS & OOGAMOUS (DISSIMILAR)

SEXUAL REPⁿ (3 STEPS)

a) PLASMOGAMY: MIXING OF PROTOPLASM OF TWO CELLS, BUT NOT FUSED NUCLEUS

b) KARYOGAMY

c) MEIOSIS



PLASMOGAMY IMMEDIATELY FOLLOWED BY KARYOGAMY

Rhizopus (BREAD MOULD)

MUCOR

ALBUGO

sexual spore

zygospore (2n) or oospore (2n)

ZOOSPORE

Asexual spore

ASCOMYCETES

SAC FUNGI

⇒ SAPROPHYTIC, PARASITIC, DECOMPOSER, COPROPHILLOUS (grow in DUNG).

⇒ SEPTATE BRANCHED MYCELIUM.

⇒ MOSTLY MULTICELLULAR. BUT YEAST (UNICELLULAR)

⇒ ASEXUAL: CONIDIA

Male Hyphae. Female hyphae

① PLASMOGAMY. (PROTOPLASM MIX)

MALE & FEMALE HYPHAE: FUSED.

male → Female.

n + n

Both Nucleus enter into ascus.

→ saclike (ASCUS)

n+n (DIKARYON)

DIKARYOPHASE

Plasmogamy not immediately followed By Karyogamy.

⇒ male & female nucleus Stay Together BUT NOT FUSED: DIKARYON

② Karyogamy (ASCUS)

ZYGOTE (2n)

MEIOSIS (ASCUS).

ASCOSPORES

Sexual, Haploid, meiospore, endogenous.

ASCOCARP (FRUITING BODY).

↓

ASCUS

↓

ASCOSPORE

germinate New FUNGI/ MYCELIUM

- MORELS & TRUFFLES EDIBLE FUNGI
- ASPERGILLUS, CLAVICEPS, PENICILLIUM.
- NEUROSPURA: BIOCHEMICAL & GENETICS WORK.

BASIDIOMYCETES

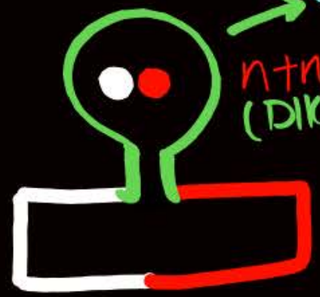
CLUB FUNGI

- ★ SEPTATE, BRANCHED MYCELIUM.
- ★ SOIL, LOGS OF WOOD, TREE STUMP, PARASITE (RUST FUNGI & SMUT FUNGI)
- ★ ASEXUAL SPORE : ABSENT
- ★ VEGETATIVE REPRODUCTION BY FRAGMENTATION IS MORE COMMON.
- ★ FUSION OF VEGETATIVE/ SOMATIC MYCELIUM/ HYPHAE (PLASMOGAMY)
- ★ SEX ORGAN : ABSENT

Plasmogamy not immediately followed By Karyogamy.

① PLASMOGAMY.

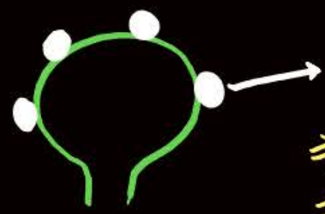
FORMATION OF CLUB LIKE STRUCTURE (BASIDIUM)



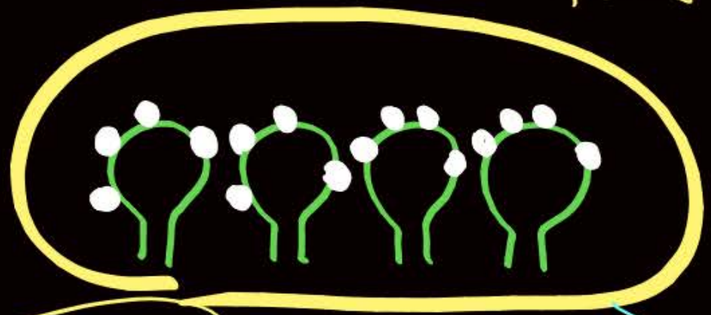
DIKARYOPHASE

② KARYOGAMY.

MEIOSIS



Basidiospore
- ⇒ Haplod
- ⇒ Sexual
- ⇒ exogenous.



Basidiocarp (FRUITING BODY)

- ⇒ MUSHROOM
- ⇒ TOAD STOOL
- ⇒ PUFF FUNGI
- ⇒ BRACKET FUNGI
- ⇒ PUCCINIA
- ⇒ USTILAGO

Basidium

Basidiospores.

DEUTROMYCETES

⇒ Imperfect fungi

⇒ Sexual stage (perfect stage) : ABSENT.

⇒ Vegetative / Asexual Repⁿ : given one name

⇒ If Sexual Repⁿ : Reported, that FUNGI SHIFTED TO ASCOMYCETES / BASIDIOMYCETES.

⇒ MYCELIUM : BRANCHED, SEPTATE

⇒ ASEXUAL : CONIDIA

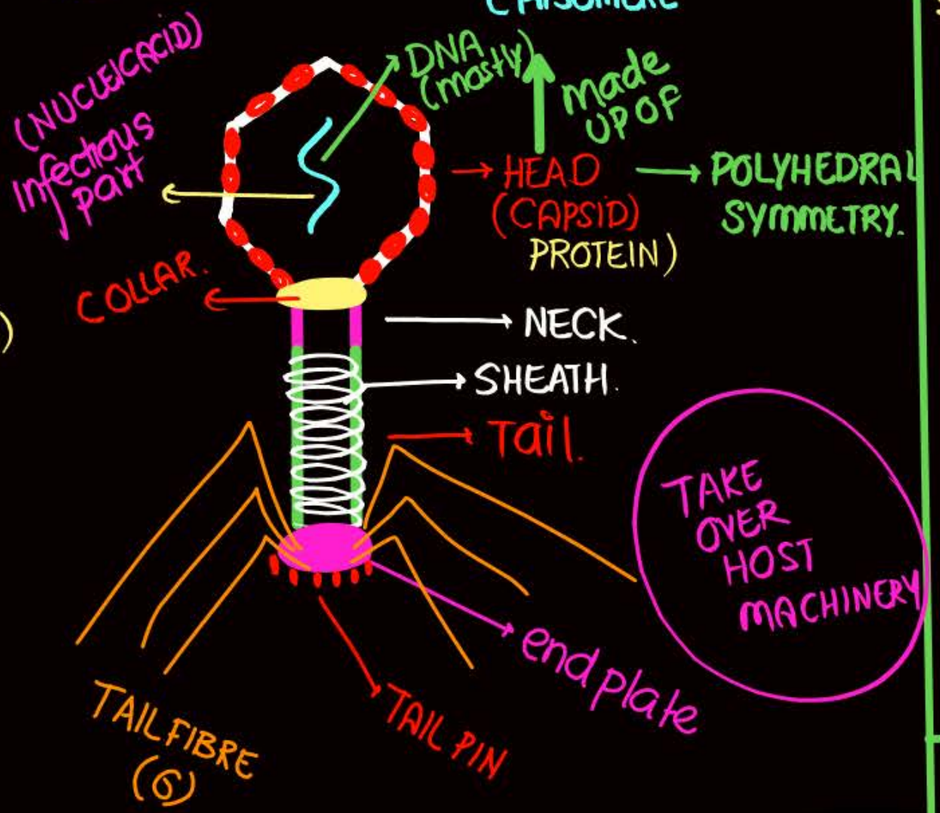
⇒ Parasitic, Saprophytic BUT mostly decomposer of LITER. (FRESH UNDECOMPOSED PART)

Recycling of NUTRIENT

eg : Alternaria
Colletotrichum
Trichoderma.

VIRUS (BACTERIOPHAGE)

- ⇒ NON-CELLULAR
- ⇒ LINK B/W LIVING & NON LIVING
- ⇒ OBLIGATE INTRACELLULAR PARASITE (NEED HOST)
- ⇒ VENOM/POISONOUS FLUID.
- ⇒ genetic material/ NUCLEIC ACID (either DNA/RNA)
- ⇒ BUT NEVER BOTH.
- ⇒ BACTERIOPHAGE: VIRUS INFECT BACTERIA, DSDNA (mostly)
- ⇒ NUCLEOPROTEIN: VIRUS.
- ⇒ Small pox, mumps, herpes, influenza, AIDS. etc
- ⇒ CAPSID: HELIX: ARRANGE
  - HELICAL SYMMETRY (TOBACCO MOSAIC VIRUS.



Plant virus: SSRNA
Animal virus: SSRNA/dsRNA/dsDNA
Bacteriophage: mostly dsDNA

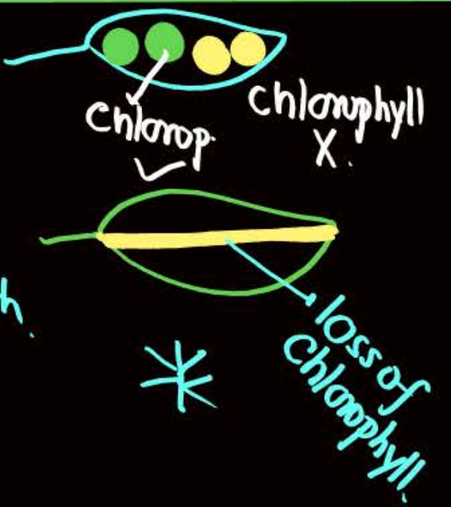
VIRUS: OUTSIDE THE CELL: INERT/INACTIVE.

⇒ Ivanowsky: Term VIRUS./ POISONOUS FLUID.
TOBACCO MOSAIC DISEASE CAUSED BY TOBACCO MOSAIC VIRUS.
VIRUS CAN CROSS BACTERIAL FILTER.
VIRUS SMALLER THAN BACTERIA.

⇒ BEIJERNEK.

⇒ STANLEY: TMV: CRYSTALIZED: PROTEIN PRESENT

a) MOSAIC FORMATION:
b) vein clearing & yellowing
c) Dwarfing & stunted growth.
d) CURLING & ROLLING OF LEAF



⇒ NO PLACE FOR VIRUS, VIROID, PRIONS & LICHEN IN FIVE KINGDOM CLASSIFICATION (WHITTAKER)

VIROID

Low molecular weight

⇒ Infectious free RNA without PROTEIN COAT

⇒ DIOENER.

⇒ Smaller than virus

⇒ POTATO SPINDLE TUBER DISEASE IN PLANTS.

PRIONS

⇒ abnormal FOLDED PROTEIN (INFECTIOUS)

⇒ Size SIMILA TO VIRUS

⇒ NEURODEGERATIVE DISORDER.

⇒ MAD COW DISEASE / BOWINE SPONGIFORM ENCEPHALOPATHY. (CATTLE)

⇒ CREUTZ JACOB DISEASE (HUMAN).

LICHEN

SYMBIOTIC

algae

Phycobiont

5%

Provide FOOD

fungi

mycobiont

95% dominant.

SHELTER, absorption HELP.

⇒ polluted area, SO_2 / air pollution LICHEN DO NOT GROW.

⇒ Indicator of air pollution.

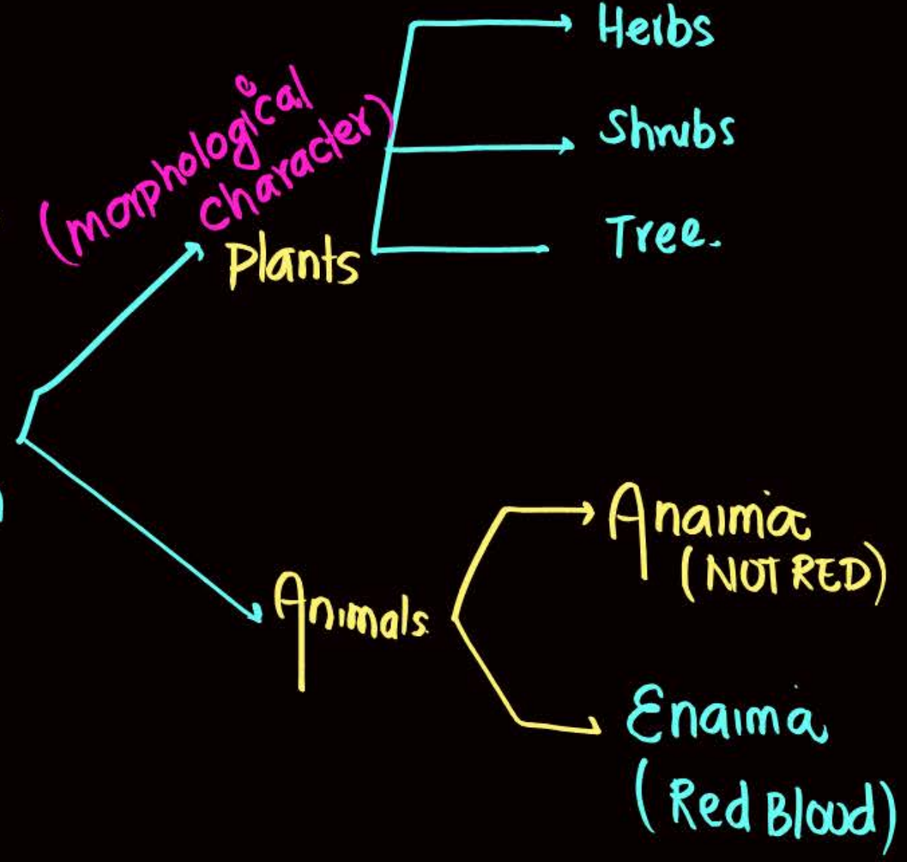
Classification

⇒ NEED: FOOD, SHELTER, CLOTHES

⇒ EARLIEST: BASED ON ECONOMIC IMPORTANCE.

BUT

1st classification: Scientific approach (Aristotle)



2K : LINNAEUS.

PRESENSE/ABSENSE OF CELL WALL.

PLANTAE : CELL WALL ✓

PLANTS.

- ⇒ ALGAE : Eu, AUTO, MULTICELLULAR. BUT (SPIROGYRA). CHLORELLA & CHLAMYDOMONAS (UNICELLULAR)
- ⇒ BRYO/MOSS : E, AUTO, MULTI.
- ⇒ PTER/FERN : E, AUTO, MULT
- ⇒ GYMNO : E, AUTO, MULTI
- ⇒ ANGIO : E, AUTO, MULT

- ⇒ BACTERIA : Pro, Hetro (mostly), Unicell
- ⇒ FUNGI : Eu, Hetro, Mostly multi

not sufficient (inadequate)

easy to classify

ANIMALIA : CELL WALL X.

- ⇒ VERTEBRATES
- ⇒ INVERTEBRATES
- ⇒ PROTOZOA (Amoeba, paramecium)

CHITIN

DRAWBACK

- ★ Placed prok & eukaryote in same kingdom.
- ★ AUTOTROPHS (PLANT) → CELLULOSE & HETROTROPHS (FUNGI) → SAME KINGDOM: PLANTAE ALTHOUGH DIFFER IN CELL WALL COMPOSITION.
- ★ PLACED MULTICELLULAR (SPIROGYRA) & UNICELLULAR (Chlorella & Chlamydomonas)
- ★ Few can fit either of Two Category

Euglena
- Cellwall absent (animal character)
- Photosynthesis (Plant character)

As time pass : REALIST CRITERIA INCREASE

- Cell structure
- Cell wall composition
- Habitat
- Reproduction
- Evolutionary HISTORY / Phylogeny
- NUTRITION

3K

Haeckel.

PLANTAE

ANIMALIA

PROTISTA: Chlorella, Chlamydomonas & protozoa (Amoeba, paramecium)

Placed Together.

UNICELLULAR EUKARYOTES.

4K

Copeland.

PLANTAE

ANIMALIA

PROTISTA:

MONERA: Bacteria, BGA, Archaebacteria etc.

5K

R. H WHITTAKER (1969)

MONERA

PROTISTA

FUNGI

PLANTAE

ANIMALIA

divided into

① EUBACTERIA / TRUE BACTERIA → BACTERIA

② ARCHAEBACTERIA → ARCHAEA

③ PROTISTA

④ FUNGI

⑤ PLANTAE

⑥ ANIMALIA

→ EUKARYA

SIX kingdom Classifr. (Carl woese)

3 DOMAIN

CRITERIA

a) REPRODUCTION → AUTO / HETRO

b) NUTRITION → PROK

c) Cellstructure → euk

d) BODY ORGANISATION OR THALLUS ORGANISATION → Unicell / MULTIC

e) phylogeny (evolutionary HISTORY)

QUESTION

Which one of the following is not a criterion for classification of fungi? (2024)

1. Mode of spore formation
2. Fruiting body
3. Morphology of mycelium
4. Mode of nutrition

QUESTION

Match List-I with List-II. (2024)

Choose the correct answer from the options given below:

1. A-(III), B-(II), C-(I), D-(IV)
2. A-(IV), B-(III), C-(II), D-(I)
3. A-(III), B-(II), C-(IV), D-(I)
4. A-(I), B-(III), C-(II), D-(IV)

	List-I		List-II
(A)	*Rhizopus*	(I)	Mushroom
(B)	*Ustilago*	(II)	Smut fungus
(C)	*Puccinia*	(III)	Bread mould
(D)	*Agaricus*	(IV)	Rust fungus

QUESTION

Match List-I with List-II. (2022)

Choose the correct answer from the option given below:

1. A-III; B-II; C-IV; D-I
2. A-III; B-IV; C-II; D-I
3. A-I; B-II; C-III; D-IV
4. A-IV; B-II; C-I; D-III

List-I	List-II
(A) *Puccinia*	(I) Parasitic fungus on mustard
(B) *Neurospora*	(II) Dead substrates
(C) *Saprophytes*	(III) Wheat rust
(D) *Albugo*	(IV) Biochemical and Genetic Work

QUESTION

Given below are two statements:

Statement-I: Mycoplasma can pass through less than 1 micron filter size. ©

Statement-II: Mycoplasma are bacteria ~~with cell wall~~ without . X.

In the light of the above statements, choose the most appropriate answer from the options given below (2022)

1. Statement-I is incorrect but Statement-II are correct
2. Both Statement-I and Statement-II are correct
3. Both Statement-I and Statement-II are incorrect
4. Statement-I is correct but Statement-II is incorrect ✓

QUESTION

Which of the following is a correct statement? (2022)

1. Mycoplasma have DNA, ribosome and cell wall.
2. Cyanobacteria are a group of autotrophic organisms classified under kingdom Monera
3. Bacteria are exclusively heterotrophic organisms
4. Slime moulds are saprophytic organisms classified under Kingdom Monera

QUESTION

Identify the asexual reproductive structure associated with *Penicillium*: (2022)

1. Gemmules
2. Buds
3. Zoospores
4. Conidia

ascomycetes.

asexual.

QUESTION

Mad cow disease in cattle and Cr Jacob disease in humans are due to infection by:

(2022 phase -2)

1. Prion
2. Bacterium
3. Virus
4. Viroid

QUESTION

Which of the following statements is correct? (2021)

1. Fusion of protoplasms between two motile or non-motile gametes is called plasmogamy.
2. Organisms that depend on living plants are called saprophytes. (dead.)
3. Some of the organisms can fix atmospheric nitrogen in specialized cells called sheath cells. (Heterocyst)
4. Fusion of two cells (NUCLEUS.) is called Karyogamy.

QUESTION

Which of the following is correct about viroids? (2020)

1. They have free RNA without protein coat.
2. They have DNA with protein coat.
3. They have free DNA without protein coat.
4. They have RNA with protein coat.

QUESTION

Which of the following is incorrect about Cyanobacteria? (2020 Covid)

1. They lack heterocysts (have)
2. They often form blooms in polluted water bodies (C)
3. They have chlorophyll 'a' similar to green plants (C)
4. They are photoautotrophs (C)

QUESTION

Which of the following statements is incorrect? (2019)

1. Viroids lack a protein coat.
2. Viruses are obligate parasites.
3. Infective constituent in viruses is the ~~protein coat~~ nucleic acid.
4. Prions consist of abnormally folded proteins.

QUESTION

Which of the following statements is incorrect? (2019)

1. Morels and truffles are edible delicacies. C
2. *Claviceps* is a source of many alkaloids and LSD. C
3. Conidia are produced exogenously and ascospores endogenously. C
4. Yeasts have filamentous bodies with long thread-like hyphae.

(Unicellular)

QUESTION

Mad cow disease in cattle is caused by an organism which has: (2019 odisha)

1. inert crystalline.
2. abnormally folded protein. PRIONS
3. free RNA without protein coat.
4. free DNA without protein coat.

QUESTION

Which of the following statements is correct? not grow in polluted areas. (2019 odisha)

1. Lichens do not grow in polluted areas.
2. Algal component of lichens is called mycobiont (Phyco)
3. Fungal component of lichens is called phycobiont (myco)
4. Lichens are not good pollution indicators.

QUESTION

Match the organisms in List-I with habitats in List-II. (2019 odisha)

Select the correct answer from the options given below:

1. A-S, B-P, C-R, D-Q
2. A-P, B-Q, C-R, D-S
3. A-R, B-S, C-P, D-P
4. A-Q, B-S, C-R, D-P

	List-I		List-II
A.	Halophiles	P.	Hot springs
B.	Thermoacidophiles	Q.	Aquatic environment
C.	Methanogens	R.	Guts of ruminants
D.	Cyanobacteria	S.	Salty areas

QUESTION

Which of the following statements about methanogens is not correct? (2019 odisha)

1. They can be used to produce biogas,
2. They are found in the rumen of cattle and their excreta.
3. They grow ~~aerobically~~ anaerobically and breakdown cellulose-rich food.
4. They produce methane gas.

QUESTION

Select the wrong statement. (2018)

1. Cell wall is present in members of Fungi and Plantae
2. Mushrooms belong to Basidiomycetes
3. Pseudopodia are locomotory and feeding structures in Sporozoans
4. Mitochondria are the powerhouse of the cell in all kingdoms except Monera

QUESTION

After karyogamy followed by meiosis, spores are produced exogenously in; (2018)

Basidiospores.

1. *Neurospora* (Ascosp)
2. *Alternaria* (D)
3. *Agaricus*
4. *Saccharomyces* (ascosporen yeast.

QUESTION

Oxygen is not produced during photosynthesis by; (2018)

1. Nostoc (BGA) $H_2O \longrightarrow O_2$.
2. Green sulphur bacteria $\longrightarrow H_2S \longrightarrow S$.
3. Cycas (gymno)
4. Chara (GA).

QUESTION

Which of the following organisms are known as chief producers in the oceans? (2018)

1. Dinoflagellates
2. Diatoms
3. Cyanobacteria
4. Euglenoids

QUESTION

Ciliates differ from all other protozoans in; (2018)

Paramecium

1. Using flagella for locomotion
2. Having a contractile vacuole for removing excess water
3. Using pseudopodia for capturing prey
4. Having two types of nuclei

DIMORPHIC NUCLEUS

QUESTION

Which of the following are found in extreme saline conditions? (2017-Delhi)

1. Archaebacteria
2. Eubacteria
3. Cyanobacteria
4. Mycobacteria

QUESTION

Which among the following are the smallest living cells, known without a definite cell wall, pathogenic to plants as well as animals and can survive without oxygen? (2017-Delhi)

1. *Bacillus*
2. *Pseudomonas*
3. Mycoplasma
4. *Nostoc*

QUESTION

Viroids differ from viruses in having: (2017-Delhi)

1. DNA molecules with protein coat
2. DNA molecules without protein coat
3. RNA molecules with protein coat
4. RNA molecules without protein coat

QUESTION

An example of flagellate protozoan is: (2017-Gujarat)

1. *Paramoecium*
2. *Trypanosoma*
3. *Entamoeba*
4. *Plasmodium*

QUESTION

Which of the following is not true of organisms in the kingdom Monera? (2017-Gujarat)

1. They originated at least 3.5 billion years ago
2. They have prokaryotic cellular organisation
3. They may be autotrophic or heterotrophic in nature
4. They reproduce by mitosis (Amitosis)

QUESTION

Select the sac fungus: (Ascomycetes) (2017-Gujarat)

1. *Albugo* (P)
2. *Agaricus* (B)
3. *Neurospora* (A)
4. *Mucor* (P)

QUESTION

The protein coat around a virus is called: (2017-Gujarat)

1. Capsule
2. Core
3. Capsid
4. Trichome

QUESTION

Select the wrong statement: (2016-II)

1. *Diatoms* are chief producers in the oceans C
2. *Diatoms* are microscopic and float passively in water C
3. The walls of diatoms are easily ~~destructible~~ indestructible
4. 'Diatomaceous earth' is formed by the cell wall of diatoms. C

QUESTION

Methanogens belong to: (2016-II)

1. Dinoflagellates
2. Slime moulds
3. Eubacteria
4. Archaebacteria

QUESTION

Which one of the following is wrong for fungi? (2016-II)

1. They are heterotrophic
2. They are both unicellular and multicellular
3. They are eukaryotic
4. All fungi possess a purely cellulosic cell wall

Chitin

QUESTION

The primitive prokaryotes responsible for the production of biogas from the dung of ruminant animals, include the: (2016-I)

1. Halophiles
2. Thermoacidophiles
3. Methanogens
4. Eubacteria

QUESTION

Chrysophytes, Euglenoids, Dinoflagellates and Slime moulds are included in the kingdom: (2016-I)

1. Animalia
2. Monera
3. Protista
4. Fungi

QUESTION

Which one of the following statements is wrong? (2016-I)

1. *Cyanobacteria* are also called blue-green algae
2. Golden algae are also called desmids
3. Eubacteria are also called ~~false~~ TRUE bacteria
4. Phycomycetes are also called algal fungi

QUESTION

One of the major components of cell wall of most fungi is: (2016-I)

1. Chitin
2. Peptidoglycan
3. Cellulose
4. Hemicellulose

QUESTION

Which of the following statements is wrong for viroids? (2016-I)

1. They lack a protein coat
2. They are smaller than viruses
3. They causes infections
4. Their RNA is of high molecular weight


THANK YOU