

Hello students, this lecture series is for FY BSc

Microbiology semester one paper code M IG101 paper entitled

Introduction and scope of Microbiology. **Unit 2**

diversity of microorganisms, module I name system of

classification. The 5 Kingdom model number 12. I am

Miss Leena Gawas, assistant professor of Microbiology,

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outline of the series is introduction the five Kingdom

classification with characteristics and examples.

Monera, Protista fungi plantae

animalia. In learning outcomes, students will be able to

describe 5 Kingdom Classification and

characteristics with example coming to the introduction. In 1937, E-Chatton suggested the terms of, "Prokaryote" to describe bacteria and "Eukaryote" to describe animal and plant cells.

ü In 1967, Robert Whittaker introduced the five-kingdom classification system.

The principal modes of nutrition: > photosynthesis > absorption > ingestion Basis of Five Kingdom System.

5 Kingdom classification

is. Including monera Protista fungi, plantae animalia. All

microbes were placed in Kingdom Monera, Kingdom Protista and

Kingdom fungi. Coming to Kingdom Monera, it includes

prokaryotic Organism. They don't have well defined nucleus

and also lack cell organelles. They are unicellular, most are heterotrophic. But Some perform photosynthesis which are all autotrophic. All bacteria and Archaea Are placed in this Kingdom Monera. Some organisms showed the presence of cell wall while there are others without cell wall. Examples of Kingdom Monera are bacteria, cyanobacteria, mycoplasma coming to Kingdom Protista. These are the organisms that are unicellular but are eukaryotic organisms. These are the simplest form of eukaryotes that exhibit either autotrophic or heterotrophic mode of nutrition. So some organisms have appendages such as Cilia or flagella or pseudopodia to move around.

There are three main types of protist. One is algae, others protozoans Examples kingdom protista

Diatoms, Protozoans like Amoeba, Paramecium

. Coming to Kingdom fungi, fungi Heterotrophic, Multicellular and Eukaryotic organisms.

Their mode of nutrition is saprophytic as they use decaying organic matter as food.

They have cell walls, which are made up of a substance called Chitin.

Fungi can also form symbiotic relationships with other organisms. e.g. lichens.

Lichens – association of fungus (mycobiont) and algae (phycobiont).

Phycobiont grows quickly when cultured without their mycobiont partner.

It Contains unicellular forms. Example: *Yeast*. Contains *multicellular* forms. Example: *Penicillium*.

then coming to

Kingdom Plantae. These are Eukaryotic, Multicellular organisms with a cell wall that is made up of cellulose.

They are autotrophs and synthesize their own food through the process of photosynthesis. They include all plants.

Based on the body differentiation and presence or absence of specialized vascular tissue,

Kingdom Plantae is divided into different divisions:

Thallophyta Bryophyta Pteridophyta Gymnosperms

Angiosperms

Examples of kingdom plantae

Ferns Pines Mango Plant etc.

coming to Kingdom Animalia.

This Kingdom includes organisms that are Multicellular, Eukaryotic, without the presence of cell wall. They have a heterotrophic mode of nutrition.

They also exhibit great diversity. Some organisms are simple while others have a complex body with specialized tissue differentiation and body organs. The Animal Kingdom is divided into many phyla and classes. Some of the phyla are Porifera, Coelenterata, Arthropoda, Echinodermata, Chordata etc.

Examples kingdom animalia

Hydra Starfish Earthworms Monkey Birds etc.

The summary of this lecture series is In 1937, E-Chatton suggested the terms of, "Prokaryote" to describe bacteria and "Eukaryote" to describe animal and plant cells.

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References

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Thank you.