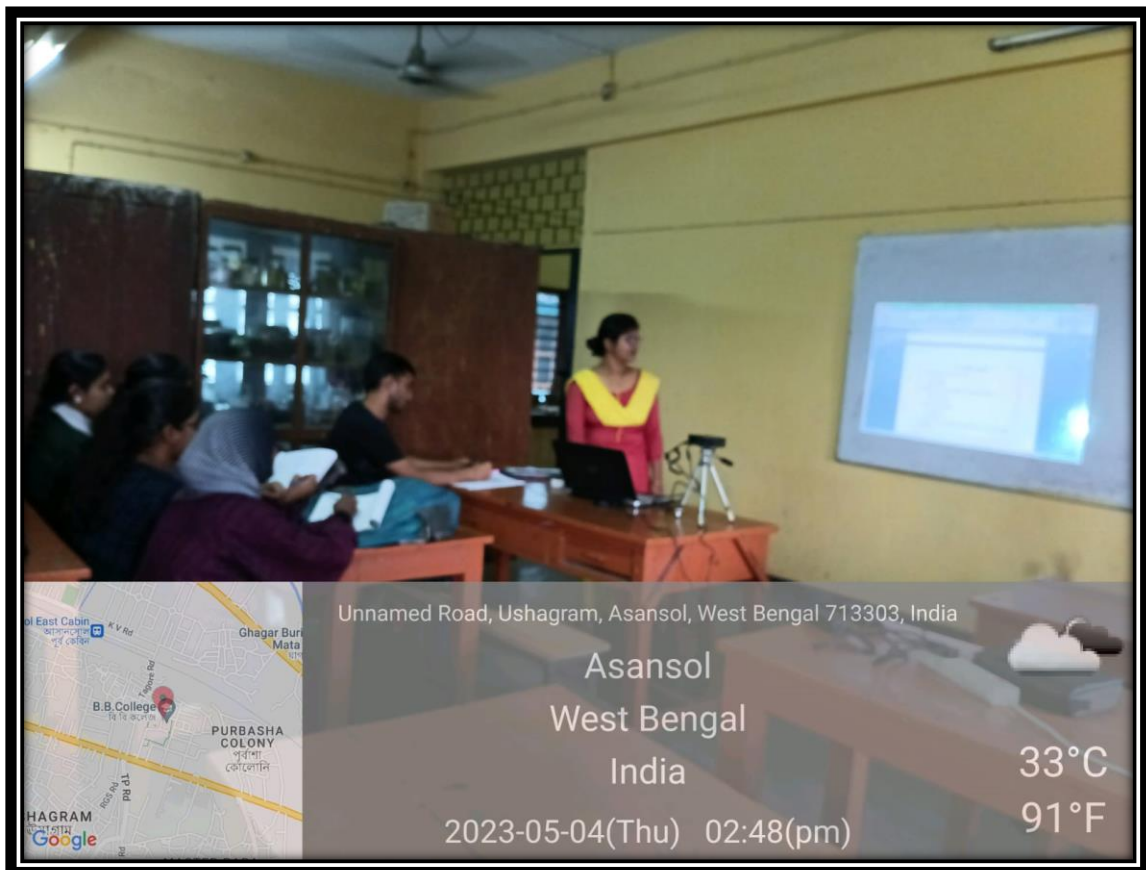




The above pictures demonstrate the conduction of offline Practical Classes and Demonstrations of Department of Mathematics



Dr. Sucheta Mandal of Department of Botany during ICT supported class.



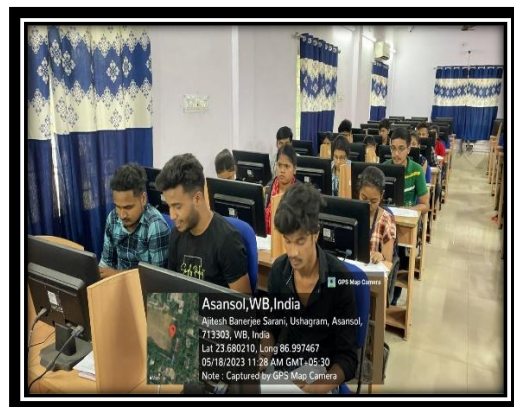
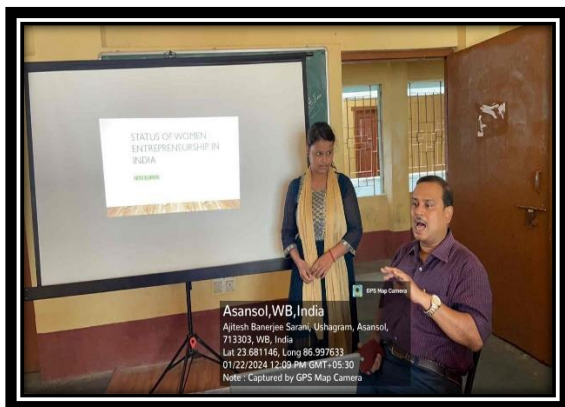
ICT class taken by Santosh Bhagat of Department of Political Science



Department of Electronics by Dr. Sk Ziaur Rahaman



Evidence of ICT offline class taken by Dr. Snigdha Roy, Dept of Chemistry



Evidence of ICT offline class taken by Dr. Amalendu Samanta, Dept of Commerce

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Basics of Animal Classification 2018

Dr. Arnab Ganguly, Assistant Professor and Head, PG Dept of Zoology, BB College, Asansol, Phone 9903846453

Biological classification: Zoological classification: Biological classification (Zoological classification) is the process by which scientists group living organisms/ animals. Organisms are classified based on how similar they are. Historically, similarity was determined by examining the physical characteristics of an organism but modern classification uses a variety of techniques including genetic analysis. Ordering of animals into groups or sets on the basis of their relationship is known as zoological classification (Simpson 1961). Ordered grouping of organisms according to their similarities and consistencies with their inferred descent is called biological classification (Mayr and Ashlock 1991). Organisms are classified according to a system of seven ranks:

Kingdom, Phylum, Class, Order, Family, Genus, Species

For example, the honey bee (*Apis mellifera*) would be classified in the following way:

1. Kingdom = Animalia
2. Phylum = Arthropoda
3. Class = Insecta
4. Order = Hymenoptera
5. Family = Apidae
6. Genus = *Apis*
7. Species = *Apis mellifera*. Species names are always written including the Genus in either full or abbreviated, for example, *Apis mellifera* or *A. mellifera* respectively.

Systematics and Taxonomy

Biological systematics is the study of the diversification of living forms (how is there so many different forms from one common ancestor?), both past and present, and the relationships among living things through time. Relationships are visualized as evolutionary trees (phylogenies/ also called cladograms, phylogenetic trees, phylogenies). Phylogenies have two components, branching order (showing group relationships) and branch length (showing amount of evolution). Phylogenetic trees of species and higher taxa are used to study the evolution of traits (e.g., anatomical or molecular characteristics) and the distribution of organisms (biogeography). Systematics, in other words, is used to understand the evolutionary history of life on Earth. In 1970 Michener et al. defined "systematic biology" and "taxonomy" (terms that are often confused and used interchangeably) in relationship to one another as follows: *Systematic biology (hereafter called simply systematics) is the field that (a) provides scientific names for organisms, (b) describes them, (c) preserves collections of them, (d) provides classifications for the organisms, keys for their identification, and data on their distributions, (e) investigates their evolutionary histories, and (f) considers their environmental*

1

Basics of Animal Classification 2018

Dr. Arnab Ganguly, Assistant Professor and Head, PG Dept of Zoology, BB College, Asansol, Phone 9903846453

Cladograms are diagrams that show the evolutionary relationships among a group of organisms.

Taxonomy, systematic biology, systematics, biostatistics, scientific classification, biological classification.

History, all these words have had overlapping meanings, although the same sometimes distinguished, but always overlapping and related. However, in modern usage, they are all

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Forest type, Deforestation and Plantation

Definition

American Foresters: "a forest is a biological community dominated by trees and other woody vegetation".

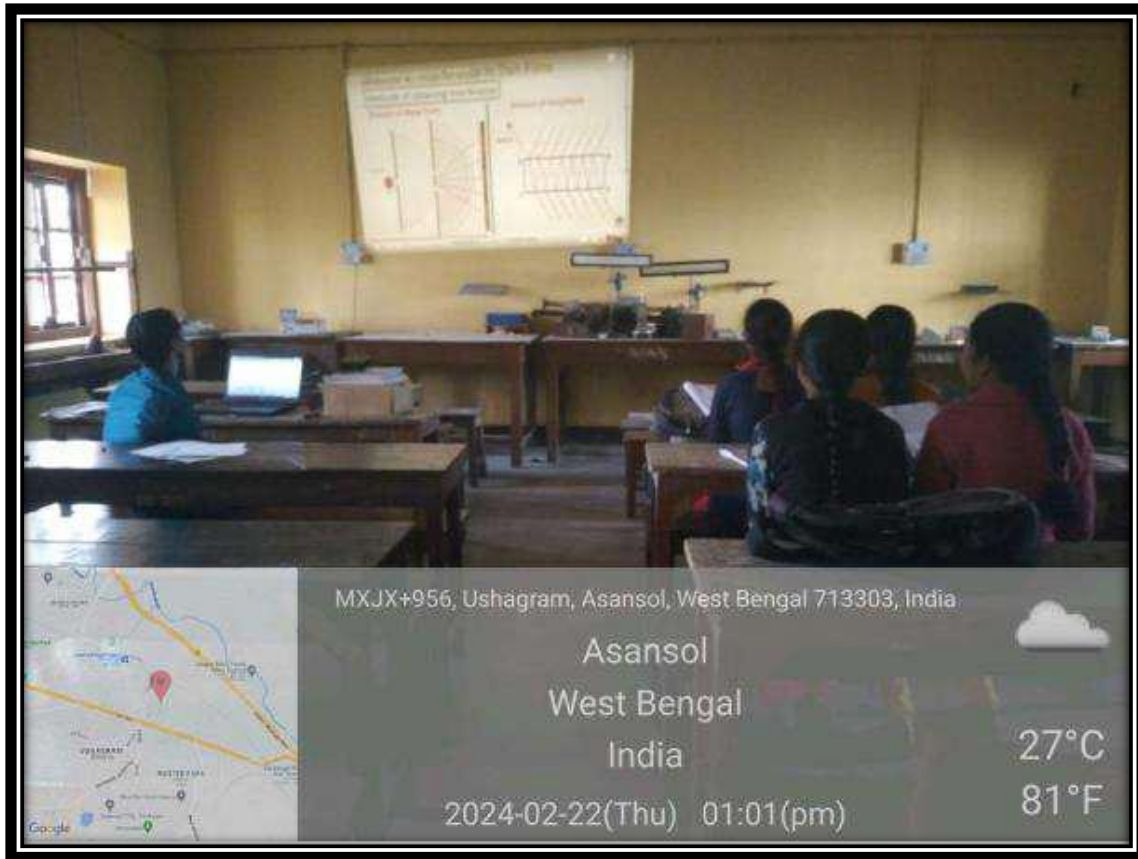
British Commonwealth Forest Terminology: "a plant community predominantly of trees and other woody vegetations usually with a closed canopy".

Indian Forest Records: "an area set aside for the production of timber and other forest produce or maintained under woody vegetation for certain indirect benefits it provides, i.e. climatic or protective."

Types of forests

- Tropical rainforests – hot & humid region
- Annual rainfall- 2000 to 4500 mm.
- Found in south and central America, Western & Central Africa, South East

Evidence of ICT offline class taken by Dr. Arnab Ganguly and Dr. Rajrupa Ghosh, Dept of Zoology



Evidence of ICT offline class taken by Dr. Kajal Maji, Dept of Physics



Evidence of ICT offline class taken by Dr. Sidhartha Singh Deo and Dr. Sucheta Mandal, Dept of Botany



Evidence of ICT offline class taken by the faculties of Department of Commerce, Evening Shift