

## Lesson Plan: Cell biology

### September-2018

**Week-1: Membrane Vacuolar system, cytoskeleton and cell motility:** Structure and function of microtubules

**Week-2:** Structure and function of Microfilaments, Intermediate filaments.

**Week-3: Endoplasmic reticulum:** Structure, function including role in protein ] segregation

**Golgi Complex:** Structure, biogenesis and functions including role in protein secretion

**Week-4: Lysosomes:** Vacuoles and microbodies: Structure a functions

**Ribosomes:** Structures and function including role in protein synthesis.

### October-2018

**Week-1: Mitochondria:** Structure, Genomes, biogenesis

**Chloroplasts:** Structure, genomes, biogenesis

**Week-2: Nucleus:** Structure, Cell cycle (Interphase & M Phases), regulation of cell cycle

**Week-3: Extracellular Matrix:** Composition, molecules that mediate cell adhesion, membrane receptors for extra cellular matrix

**Week-4: ECM-**macromolecules, regulation of receptor expression and function

### November-2018

**Week-1: Cancer:** Carcinogenesis, agents promoting carcinogenesis, characteristics of cancer cells, molecular basis of cancer.

**Week-3:** Extra classes and problem discussion

## Lesson Plan: Plant Diversity and bioprospecting

September-2018

**Week-1:** General characters, classification & economic importance. Life histories of Fungi, xMastigomycotina- Phytophthora

**Week-2:** x Zygomycotina-Mucor  
x Ascomycotina- Saccharomyces

**Week-3:** xBasidiomycotina-Agaricus

**Week-4:** XDeutromycotina-Colletotrichum

## October-2018

**Week-1:** Classification, general structure, reproduction and economic importance.

Plant diseases: Casual organism, symptoms and control of following plant diseases.

**Week-2:** x Rust & Smut of Wheat.  
x White rust of Crucifers.

**Week-3:** x Late blight of Potato.  
x Citrus Canker.

**Week-4:** x Red rot of Sugarcane.  
General characters, classification & economic importance of Bryophytes

## November-2018

**Week-1:** Life histories of following:  
x Marchantia. x Funaria.

**Week-3:** Extra classes and problem discussion

