LESSON PLAN (2018 - 2019)

PAPER TITLE: CELL BIOLOGY

PAPER CODE: BIO-I.C-2

NAME OF FACULTY: MS. VALLANKA A.V. DIAS

MARKS: 75 MARKS (THEORY) + 25 MARKS (PRACTICAL)

CREDITS: 3 (THEORY) + 1 (PRACTICAL)

Lecture	Chapter	Sub-topic	References
1	Chapter 1: Introduction to Cell Biology	Cell Theory	Cell and Molecular Biology by Gerald Karp & Becker's World of the Cell by Hardin, Bertoni and Kleinsmith
2		Ultrastructure of prokaryotic and Eukaryotic cell	
3		Cell Matrix Proteins	
4		Components of Extracellular Matrix	
5 & 6	Chapter 2: Ultrastructure and Function of Organelles	Nucleus	Cell and Molecular Biology by Gerald Karp & Microbiology by Prescott.
7		Endoplasmic Reticulum	
8		Golgi apparatus	
9		Mitochondria	
10		Chloroplast	
11 & 12		Cytoskeleton, Centrioles and Basal bodies	
13 & 14		Lysosomes, micro bodies, Ribosomes, Peroxisomes	
15		Cilia and Flagella	
16	**Tutorials/Revision**		
17	**Continuous Assessment I (Objective+Subjective)**		
18	**Feedback of Continuous Assessment I**		
19	Chapter 3: Cell Wall and Plasma Membrane	Chemical Composition, structure and functions of the cell wall	Cell and Molecular Biology by Gerald Karp
20		Chemical Composition, structure and functions of the plasma membrane	
21		Monolayer; Planer Bilayer and Liposomes as model membrane systems;	

22		Fluid Mosaic model and lipid rafts	
23		Membrane fluidity	
24		Factors affecting membrane Fluidity	
25		Techniques used to study membrane dynamics – FRAP	
26	Chapter 4: Cell Cycle	Overview of the cell cycle; prokaryotic & eukaryotic cell cycle;	**Cell and Molecular Biology by Gerald Karp**
27		Events of Mitotic phases	
28		Events of Meiotic phases	
29		Cytokinesis	
30	**Tutorials/Revision**		
31	**Continuous Assessment II (MCQs-Set 1)**		
32	**Feedback of continuous assessment II**		
33	Chapter 5: Cell- Cell Interaction	Interactions of cells with extracellular materials: integrins,	**Cell and Molecular Biology by Gerald Karp & Becker's World of the Cell by Hardin, Bertoni and Kleinsmith**
34		Focal adhesions and Hemidesmosomes	
35		Interactions of cells with other cells: Selectins	
36		The Immunoglobulin Superfamily	
37		Cadherins	
38		Adheren junctions and Desmosomes	
39		Tight Junctions	
40		Gap Junction	
41		Plasmodesmata	
42	**Tutorials/Revision**		
43	**Continuous Assessment II (MCQs-Set 2)**		
44	**Feedback of continuous assessment II**		
45	**Revision, Paper pattern discussion, Instructions for the semester end exam**		