PANIPAT INSTITUTE OF ENGINEERING AND TECHNOLOGY
PANIPAT
DEPARTMENT OF APPLIED SCIENCES & HUMANITIES
LESSON PLAN (Section-H, J, L)

Name: - Dr. Manisha **Subject Name:- Biology**
Branch/Semester: -2nd sem (2023-24). **Subject Code:- BS-141A**

Sr. No.	Lecture No.	Description of Topic	Target outcome	Tentative date
1	L1	Syllabus and COs, POs discussion	--	12-2-24
2	L2	**Unit:1** Concept and definition of Biology, Importance of Biology in major discoveries of life	CO1	13-2-24
3	L3	Characteristic of living organisms, prokaryotic cell	CO1	15-2-24
4	L4	Eukaryotic cell; organelles-ER, golgi, lysosome, nucleus, mitochondria, chloroplast	CO1	19-2-24
5	L5	Difference between prokaryotic and eukaryotic cell, difference between animal and plant cell	CO1	20-2-24
6	L6	Classification of organisms: unicellular and multicellular; on the basis of nitrogenous waste (ammonotelic, ureotelic, uricotelic); aquatic and terrestrial	CO2	22-2-24
7	L7	Nutritional classification of organisms: autotrophs, heterotrophs and lithotrophs	CO2	26-2-24
8	L8	Molecular taxonomy: three major domains of life and their differences, Archaebacteria, bacteria and eukarya	CO2	27-2-24
9	L9	**Unit-2:** Definition, classification and functions of proteins	CO3	29-2-24

10	L10	Definition, classification and functions of nucleic acids	CO3	4-3-24
11	L11	Definition, classification and functions of lipids	CO3	12-3-24
12	L12	Definition, classification and functions of carbohydrates	CO3	14-3-24
13	L13	General characteristics, nomenclature and classification of enzymes,	CO3	18-3-24
14	L14	Effect of temperature, pH and substrate concentration on the activity of enzymes, Coenzymes and mechanism of enzyme action	CO3	19-3-24
15	L15	Enzyme kinetics and kinetic parameters (K_m and V_{max})	CO3	21-3-24
16	L16	**Unit:3** -Genetics: Mendel's laws of inheritance, variation and speciation, concept of recessiveness and dominance	CO4	26-3-24
17	L17	Genetic disorders, single gene disorders in humans	CO4	4-4-24
18	L18	Genetics of blood group, Diabetes type-I and II	CO4	8-4-24
19	L19	Cell division: mitosis and its significance	CO4	9-4-24
20	L20	Meiosis and its significance	CO4	11-4-24
21	L21	Evidence of nucleic acid as genetic material, central dogma of Molecular Biology	CO4	15-4-24
22	L22	Role of immune system in health and disease	CO4	16-4-24
23	L23	Brief introduction to morphology, economic importance of bacteria	CO4	18-4-24

24	L24	Brief introduction to morphology, economic importance of fungi	CO4	22-4-24
25	L25	Pathogenicity of bacteria, pathogenicity of fungi	CO4	23-4-24
26	L26	Brief introduction to morphology, economic importance and pathogenicity of virus	CO4	25-4-24
27	L27	Brief introduction to morphology, economic importance and pathogenicity of protozoa	CO4	29-4-24
28	L28	**Unit-4:** Concept of exothermic and endothermic reactions, concept of standard free energy and spontaneity in biological reactions. Catabolism of glucose (glycolysis)	CO5	30-4-24
29	L29	Krebs cycle	CO5	2-5-24
30	L30	Photosynthesis (light and dark reaction); ATP as energy currency of the cell	CO5	14-5-24
31	L31	Concept of species and strains, sterilization and media composition, Growth Kinetics	CO5, CO6	16-5-24
32	L32	Role of Biology in agriculture, Role of Biology in bioinformatics	CO6	20-5-24
33	L33	Role of Biology in medicine, Role of Biology in Forensic Science, Role of Biology in Nano-biotechnology	CO6	21-5-24
34	L34	Bio-MEMS, biosensors	CO6	23-5-24