PANIPAT INSTITUTE OF ENGINEERING AND TECHNOLOGY
PANIPAT
DEPARTMENT OF APPLIED SCIENCES & HUMANITIES
LESSON PLAN (Section-E, F, G, H)

Name: - Dr. Monu Kalra **Subject Name:- Biology**
Branch/Semester: -2nd sem (2021-22). **Subject Code:- BS-141A**

Sr. No.	Lecture No.	Description of Topic	Target outcome	Tentative date
1	L1	**Unit:1** Concept and definition of Biology,	CO1	28-3-22
2	L2	Importance of Biology in major discoveries of life, characteristic of living organisms,	CO1	30-3-22
3	L3	prokaryotic cell	CO1	31-3-22
4	L4	Eukaryotic cell; organelles-ER, golgi, lysosome, nucleus, mitochondria, chloroplast	CO1	31-3-22
5	L5	Difference between prokaryotic and eukaryotic cell	CO1	1-4-22
6	L6	difference between animal and plant cell	CO1	4-4-22
7	L7	Classification of organisms: unicellular and multicellular; on the basis of nitrogenous waste (ammonotelic, ureotelic, uricotelic); aquatic and terrestrial	CO2	6-4-22
8	L8	Nutritional classification of organisms: autotrophs, heterotrophs and lithotrophs	CO2	7-4-22
9	L9	Molecular taxonomy: three major domains of life and their differences	CO2	7-4-22
10	L10	Archaebacteria, bacteria and eukarya	CO2	8-4-22
11	L11	**Unit-2:** Definition, classification and functions of proteins	CO3	11-4-22

12	L12	Definition, classification and functions of nucleic acids	CO3	13-4-22
13	L13	Definition, classification and functions of lipids	CO3	14-4-22
14	L14	Definition, classification and functions of carbohydrates	CO3	15-4-22
15	L15	General characteristics, nomenclature and classification of enzymes,	CO3	18-4-22
16	L16	effect of temperature, pH and substrate concentration on the activity of enzymes	CO3	20-4-22
17	L17	Coenzymes and mechanism of enzyme action,	CO3	21-4-22
18	L18	Enzyme kinetics and kinetic parameters (K_m and V_{max})	CO3	22-4-22
19	L19	**unit:3** -Genetics: Mendel's laws of inheritance, variation and speciation, concept of recessiveness and dominance	CO4	25-4-22
20	L20	Genetic disorders, single gene disorders in humans	CO4	27-4-22
21	L21	genetics of blood group, Diabetes type-I and II	CO4	28-4-22
22	L22	Cell division: mitosis and its significance	CO4	2-5-22
23	L23	Meiosis and its significance	CO4	10-5-22
24	L24	Evidence of nucleic acid as genetic material, central dogma of Molecular Biology	CO4	14-5-22
25	L25	Role of immune system in health and disease:	CO4	17-5-22
26	L26	brief introduction to morphology, economic importance of bacteria	CO4	18-5-22

27	L27	brief introduction to morphology, economic importance of fungi	CO4	19-5-22
28	L28	pathogenicity of bacteria	CO4	23-5-22
29	L29	pathogenicity of fungi	CO4	25-5-22
30	L30	brief introduction to morphology, economic importance and pathogenicity of virus	CO4	30-5-22
31	L31	brief introduction to morphology, economic importance and pathogenicity of protozoa	CO4	31-5-22
32	L32	**unit-4:** Concept of exothermic and endothermic reactions, concept of standard free energy and spontaneity in biological reactions. Catabolism of glucose (glycolysis)	CO5	1-6-22
33	L33	krebs cycle	CO5	2-6-22
34	L34	Photosynthesis (light and dark reaction); ATP as energy currency of the cell	CO5	7-6-22
35	L35	Concept of species and strains, sterilization and media composition	CO5	8-6-22
36	L36	Role of Biology in agriculture	CO6	15-6-22
37	L37	Role of Biology in bioinformatics	CO6	16-6-22
38	L38	biosensors	CO6	20-6-22
39	L39	Role of Biology in medicine	CO6	22-6-22
40	L40	Role of Biology in Nano-biotechnology	CO6	23-6-22
41	L41	Bio-MEMS	CO6	27-6-22
42	L42	Role of Biology in forensic science	CO6	29-6-22

43	L43	Growth kinetics	CO6	