

PANIPAT INSTITUTE OF ENGINEERING AND TECHNOLOGY
PANIPAT
DEPARTMENT OF APPLIED SCIENCES & HUMANITIES
LESSON PLAN (Section-A,B,C,D,E)

Name: - Dr. Monu Kalra

Subject Name:- Biology

Branch/Semester: -Odd sem (2022-23).

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	10-10-22
2	L2	Importance of Biology in major discoveries of life, characteristic of living organisms,	CO1	11-10-22
3	L3	prokaryotic cell	CO1	12-10-22
4	L4	Eukaryotic cell; organelles-ER, golgi, lysosome, nucleus, mitochondria, chloroplast	CO1	13-10-22
5	L5	Difference between prokaryotic and eukaryotic cell	CO1	17-10-22
6	L6	difference between animal and plant cell	CO1	24-10-22
7	L7	Classification of organisms: unicellular and multicellular; on the basis of nitrogenous waste (ammonotelic, ureotelic, uricotelic); aquatic and terrestrial	CO2	24-10-22
8	L8	Nutritional classification of organisms: autotrophs, heterotrophs and lithotrophs	CO2	25-10-22
9	L9	Molecular taxonomy: three major domains of life and their differences	CO2	26-10-22
10	L10	Archaeobacteria, bacteria and eukarya	CO2	26-10-22
11	L11	Unit-2: Definition, classification and functions of proteins	CO3	27-10-22

12	L12	Definition, classification and functions of nucleic acids	CO3	7-11-22
13	L13	Definition, classification and functions of lipids	CO3	7-11-22
14	L14	Definition, classification and functions of carbohydrates	CO3	9-11-22
15	L15	General characteristics, nomenclature and classification of enzymes,	CO3	14-11-22
16	L16	effect of temperature, pH and substrate concentration on the activity of enzymes	CO3	14-11-22
17	L17	Coenzymes and mechanism of enzyme action,	CO3	15-11-22
18	L18	Enzyme kinetics and kinetic parameters (K_m and V_{max})	CO3	15-11-22
19	L19	unit:3 -Genetics: Mendel's laws of inheritance, variation and speciation, concept of recessiveness and dominance	CO4	21-11-22
20	L20	Genetic disorders, single gene disorders in humans	CO4	28-11-22
21	L21	genetics of blood group, Diabetes type-I and II	CO4	29-11-22
22	L22	Cell division: mitosis and its significance	CO4	1-12-22
23	L23	Meiosis and its significance	CO4	5-12-22
24	L24	Evidence of nucleic acid as genetic material, central dogma of Molecular Biology	CO4	6-12-22
25	L25	Role of immune system in health and disease:	CO4	12-12-22
26	L26	brief introduction to morphology, economic importance of bacteria	CO4	13-12-22

27	L27	brief introduction to morphology, economic importance of fungi	CO4	13-12-22
28	L28	pathogenicity of bacteria	CO4	14-12-22
29	L29	pathogenicity of fungi	CO4	14-12-22
30	L30	brief introduction to morphology, economic importance and pathogenicity of virus	CO4	19-12-22
31	L31	brief introduction to morphology, economic importance and pathogenicity of protozoa	CO4	20-12-22
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	21-12-22
33	L33	krebs cycle	CO5	21-12-22
34	L34	Photosynthesis (light and dark reaction); ATP as energy currency of the cell	CO5	2-1-23
35	L35	Concept of species and strains, sterilization and media composition	CO5	2-1-23
36	L36	Role of Biology in agriculture	CO6	3-1-23
37	L37	Role of Biology in bioinformatics	CO6	3-1-23
38	L38	biosensors	CO6	9-1-23
39	L39	Role of Biology in medicine	CO6	9-1-23
40	L40	Role of Biology in Nano-biotechnology	CO6	10-1-23
41	L41	Bio-MEMS	CO6	10-1-23
42	L42	Role of Biology in forensic science	CO6	11-1-23

