PANIPAT INSTITUTE OF ENGINEERING AND TECHNOLOGY
PANIPAT
DEPARTMENT OF APPLIED SCIENCES & HUMANITIES
LESSON PLAN

Subject Name :- Biology

Branch/Semester: -2nd sem (2020-21). **Subject Code :- BS-141A**

Sr. No.	Lecture No.	Description of Topic	Lecture plan date	Target outcome
1	L1	**Unit:1** Concept and definition of Biology,	19/4/21	CO1
2	L2	Importance of Biology in major discoveries of life, characteristic of living organisms,	20/4/21	CO1
3	L3	prokaryotic cell	21/4/21	CO1
4	L4	Eukaryotic cell; organelles-ER, golgi, lysosome, nucleus, mitochondria, chloroplast	26/4/21	CO1
5	L5	Difference between prokaryotic and eukaryotic cell	27/4/21	CO1
6	L6	difference between animal and plant cell	28/4/21	CO1
7	L7	Classification of organisms: unicellular and multicellular; on the basis of nitrogenous waste (ammonotelic, ureotelic, uricotelic); aquatic and terrestrial	3/5/21	CO2
8	L8	Nutritional classification of organisms: autotrophs, heterotrophs and lithotrophs	4/5/21	CO2
9	L9	Molecular taxonomy: three major domains of life and their differences	5/5/21	CO2
10	L10	Archaebacteria, bacteria and eukarya	10/5/21	CO2
11	L11	**Unit-2:** Definition, classification and functions of proteins	11/5/21	CO3

12	L12	Definition, classification and functions of nucleic acids	12/5/21	CO3
13	L13	Definition, classification and functions of lipids	17/5/21	CO3
14	L14	Definition, classification and functions of carbohydrates	18/5/21	CO3
15	L15	General characteristics, nomenclature and classification of enzymes,	19/5/21	CO3
16	L16	effect of temperature, pH and substrate concentration on the activity of enzymes	24/5/21	CO3
17	L17	Coenzymes and mechanism of enzyme action,	25/5/21	CO3
18	L18	Enzyme kinetics and kinetic parameters (K_m and V_{max})	26/5/21	CO3
19	L19	**unit:3** -Genetics: Mendel's laws of inheritance, variation and speciation, concept of recessiveness and dominance	31/5/21	CO4
20	L20	Genetic disorders, single gene disorders in humans	01/6/21	CO4
21	L21	genetics of blood group, Diabetes type-I and II	02/6/21	CO4
22	L22	Cell division: mitosis and its significance	03/6/21	CO4
23	L23	Meiosis and its significance	07/6/21	CO4
24	L24	Evidence of nucleic acid as genetic material, central dogma of Molecular Biology	08/6/21	CO4
25	L25	Role of immune system in health and disease:	09/6/21	CO4
26	L26	brief introduction to morphology, economic importance of bacteria	14/6/21	CO4

27	L27	brief introduction to morphology, economic importance of fungi	15/6/21	CO4
28	L28	pathogenicity of bacteria	16/6/21	CO4
29	L29	pathogenicity of fungi	21/6/21	CO4
30	L30	brief introduction to morphology, economic importance and pathogenicity of virus	22/6/21	CO4
31	L31	brief introduction to morphology, economic importance and pathogenicity of protozoa	23/6/21	CO4
32	L32	**unit-4:** Concept of exothermic and endothermic reactions, concept of standard free energy and spontaneity in biological reactions. Catabolism of glucose (glycolysis)	28/6/21	CO5
33	L33	krebs cycle	29/6/21	CO5
34	L34	Photosynthesis (light and dark reaction); ATP as energy currency of the cell	30/6/21	CO5
35	L35	Concept of species and strains, sterilization and media composition	6/7/21	CO5
36	L36	Role of Biology in agriculture	7/7/21	CO6
37	L37	Role of Biology in bioinformatics	8/7/21	CO6
38	L38	biosensors	12/7/21	CO6
39	L39	Role of Biology in medicine	13/7/21	CO6
40	L40	Role of Biology in Nano-biotechnology	14/7/21	CO6
41	L41	Bio-MEMS	19/7/21	CO6
42	L42	Role of Biology in forensic science	20/7/21	CO6

43	L43	Growth kinetics	21/7/21	