

1-Subject title	Biology	
2-Number of credits	Theory: 4	Laboratory: 2
3-Number of contact hours	Theory: 2h/wk.	Laboratory:2h/wk.
4-Subject time	First Year	

No.	Title of Lectures	Hours
1.	Introduction to Medical and oral Biology	2
2.	Prokaryotes and Eukaryotes	2
3.	General and oral Immunity	2
4.	Bacteria and oral disease	2
5.	Genetics and its role in oral diseases	2
6.	Simple epithelial tissue (Tongue)	2
7.	Stratified epithelial tissue	2
8.	Glandular epithelial tissue (salivary gland)	2
9.	General connective tissue (blood)	2
10.	Muscular tissue	2
11.	Nerve tissue	2
12.	Cell structure (oral mucus membrane)	2
13.	Plasma membrane structure	2
14.	Passage of Materials across Cell Membrane	2
15.	Cell cycle	2
16.	Mitosis and meiosis	2
17.	Cell energy	2
18.	Nucleic acid, DNA and RNA	2
19.	Introduction to parasitology	2

Types of parasites and host	2
General and oral protozoa	2
Human <i>amoebas</i> , <i>E. histolytica</i> , <i>E.coli</i> , <i>E.gingivalis</i>	2
Flagellates, <i>Giardia lamblia</i> , <i>Trichomonas tenax</i> , <i>T.hominas</i> , <i>T.vaginalis</i>	2
<i>Leishmania</i> , cutaneous and vesiral	2
Sporozoa, <i>Plasmodium spp.</i>	2
<i>Toxoplasma gondii</i>	1
Nemathelminthes, <i>Ascaris lumbricoides</i> ,	1
<i>Ancylostoma duodenale</i> , <i>Entrobilus vermicularis</i>	1
Platyhelminthes, <i>Fasciola hepatica</i>	1
<i>Schistosoma spp.</i>	1

no	Subject /practical	Time /Hr.
1	Overview of biological safety & security equipment	1
2	Introduction to Biosecurity Risk characterization in biosecurity Vulnerability assessment Components of laboratory biosecurity	1
3	Biosafety practices part Biosafety rules simulations 3D	1
4	Disinfection & Sterilization Hazardous chemical Decontamination and biological waste Disposal	1
5	Biosafety training	1

Laboratory sessions

Lab number	Study unit title	Hours
1	Laboratory safety	2
2	Parts of microscope	2
3	Types of cells	2
4	Simple epithelial tissue	2
5	Stratified epithelia tissue	2
6	Glandular epithelial tissue	2
7	Serous, Mucous, Sero-mucous cell glands	2
8	Proper connective tissue, Loose	2
9	Proper connective tissue, dense	2
10	Special connective tissue, type of cells	2
11	Cartilage, Hyaline, Elastic, Fibro	2
12	Compact and spongy bone	2
13	Human Blood, W.B.C , R.B.C and frog blood	2
14	Muscular tissue: Skeletal, cardiac and smooth muscles	2
15	Nerve cell	2
16	Central and peripheral nerve system	2
17	Spinal cord and meninges	2
18	<i>Entamoeba histolytica</i> , <i>Entamoeba coli</i>	2
19	<i>Giardia lamblia</i> , <i>Trichomonas vaginalis</i>	2

	<i>Trichomonan tenax</i>	
20	<i>Leishmania tropica, Leshmania donovani</i>	2
21	<i>Trypanosoma gambiense, T. rhodesiense</i>	2
22	<i>Plasmodium vivax, Toxoplasma gondii</i>	2
23	<i>Balantidium coli</i>	2
24	<i>Echinococcus granulosus, Taenia saginata</i> <i>Taenia solium</i>	2
25	<i>Ancylostoma, Ascaris, Entrobilus</i>	2
26	<i>Schistosoma spp, Fasciola hepatica</i>	1
27	Endoskeleton of frog	1
28	Experiment...examine samples of water	1
29	Experiment...examine samples of water (one hour), Experiment ...Blood groups(one hour)	1
30	Experiment ...Blood groups	1
Total		

<i>no</i>	Subject /practical	Time /Hr.
1	Hazard group classification system A biosafety cabinet(BSC)	1
2	Hazards Control measures for work with blood and human tissues	1
3	Bio-risk Management System Assess the capability of the laboratory Staff control Relation of risk groups of biosafety level, practices and equipment	1
4	Management Biological agents Routes of infections Basis of control measure	1
5	Types of biological wastes Categories of biological wastes Decontamination of biological wastes, Hazardous chemical	1