No.	Title of the lectures	Hours
1	Morphology, Ultra structures, physiology and metabolism of microorganisms:- -Eukaryotic & Prokaryotic cells -Cell structure of prokaryotes -Comparison between G+ve & G-ve cell wall	**2**
2	-Microbial growth, growth curve -Metabolism of microorganisms Molecular biology & bacterial genetics	**2**
3	-Sterilization and Disinfection	**2**
4	Antibiotic and chemotherapy:- -Antibiotic, sources -Mode of action of antibiotic -Anti-microbial sensitivity tests -Bacterial resistance -Prophylactic use	**2**
5	- Introduction to general immunology and oral immunology - Non-specific and specific immunity - Antigen - Immunoglobulin - Humeral and Cellular Immunity	**2**
6	- Cells and organs of the immune system - Complement system - Human leukocyte antigen - Role of complement and HLA in oral disease	**2**
7	- Oral and mucosal immunity - Autoimmunity and immune tolerance	**2**
8	- Hypersensitivity reactions - Antimicrobial and immunological defenses of saliva and gingival crevicular fluid components	**2**
9	Host-parasite relationship & Nosocomial infection -Symbiosis, Commensalism, Amphibiosis, Antagonistic -Sources of infection in hospital and -nosocomial infections -Post-operative wound infection, burns infections	**2**
10	Streptococci -Pyogenic Streptococci -Lancefield group -Pathogenesis of streptococci	**2**

	-Epidemiology, treatment and prevention -Viridans streptococci -Pneumococci	
11	Staphylococci -Virulence factors - and pathogenesis -Epidemiology, treatment and prevention	**2**
12	G- negative diplococcic , Vellionella and Moraxella Neisseria gonorrhea, N. meningitidis	**2**
13	Lactobacilli, Actinomyces and *Corynebacterium diphtheriae* & Diphtheroids	**2**
14	Bacillus: B. subtilis, B. anthracis and B.ceres	**2**
15	Clostridium : C. perfringenis , C. tetani, C. botulinum, and difficile	**2**
16	Enterobacteriaceae -E.coli, Salmonella, Shigella,	**2**
17	Enterobacter, Klebsiella, proteus, Yersinia	**2**
18	Mycobacteruim -Tuberculosis & Leprae	**2**
19	Brucella, Haemophilus, Vibirio	**2**
20	- Aggregatibacter, porphyromonas, prevotella, Bacteroids	**2**
21	Fusiforms and Spirochaetes -Fusobacterium, leptotichia	**2**
22	Treponema and oral Treponema	**2**
23	Mycoplasma, Chlamydia and Rickittsiae	**2**
24	Ecology of oral flora -Indigenous flora -Supplemental flora -Transient flora -Sources of oral bacteria -Factors modulating growth of bacteria in the oral cavity	**2**
25	Microbiology of dental caries -Dental plaque & plaque metabolism - plaque homeostasis -cariogenic microorganisms -Mutans Streptococci -Lactobacilli and Actinomyces-	**2**
26	Microbial colonization- Caries prevention- Antibacterial factors in saliva- -Vaccination against dental caries	**2**
27	Microbiology of periodontal disease and Endodontics -Subgingival microbial complex -specific , non-specific and Ecological plaque hypothesis - Porphyromonas, prevotella, Aggregatibacter virulence factors of periodontal pathogens endodontic microbiota and Routes of root canal infection -ecology of endodontic microbiology	**2**
28	Virology	**2**

	-general structure of viruses -classification	
29	viral replication -Isolation & diagnosis -Oral virology	**2**
30	- Oral mycology and Oral parasitology -Introduction, epidemiology, transmission -E.histolotica, E.gingivalis, T.tenax -Fungal cells -classification -Candida	**2**
Total		**60**

Clinical requirements

Lab number	Study unit title	Hours
1	Orientation to the Microbiology laboratory	**2**
2	The microscope	**2**
3	Sterilisation and disinfection:	**2**
4	Bacterial growth	**2**
5	Types of culture media	**2**
6	Sampling and transport of test material	**2**
7	Laboratory cultivation of microorganisms	**2**
8	Bacterial identification:1-Macroscopical characteristics (colonial morphology and cultural characteristics).	**2**
9	2. Microscopical examination (morphology of bacterial cells).	**2**
10	Staining	**2**
11	Biochemical tests (part 1).	**2**
12	Biochemical tests(part2).	**2**
13	Biochemical tests(part3).	**2**
14	Antibiotic sensitivity test(part 1).	**2**
15	Antibiotic sensitivity test(part 2).	**2**
16	Serological tests (antigen and antibody detection tests) (part 1).	**2**
17	Serological tests (antigen and antibody detection tests) (part 2).	**2**
18	Nucleic acid assays, Animal pathogenicity test	**2**
19	Staphylococci	**2**
20	Streptococci	**2**
21	Corynebacterium	**2**
22	Spore-forming Gram-positive bacilli: Bacillus spp.	**2**
23	Clostridium spp.	**2**
24	Mycobacterium spp.	**2**
25	Enterobacteriaceae (part1)	**2**
26	Enterobacteriaceae (part2)	**2**
27	Enterobacteriaceae(part3)	**2**
28	Neisseriae spp.	**2**
29	Virology	**2**

30	Mycology	**2**
Total		**60**