**Lesson Plan**

Name of the Faculty : Ms Monika Khatkar (Visiting Faculty)

Discipline : Medical Lab Technology

Year : 1st Year

Subject : Clinical Microbiology-I&11

Lesson Plan : 30 weeks (from July2018 -April 2019)

Work load (lecture/practical) per week (in hours) : Lectures-03, practicals-04

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| **Week** | **Theory** | **Practical** |
| **Lecture****day** | **Topic(including assignment test)** | **Practical****Day****(2 hours lab each day), (2 hours each day\*2days in week=4 weekly load)** | **Topic** |
| 1st | 1st  | Introduction to the whole syllabus of CMB-I | 1st & 2nd | Demonstration of safety rules(universal precautions) in microbiology laboratory |
| 2nd  | **Ch - 1** Microbiology – Introduction , History |
| 3rd  | Importance of microbiology |
| 2nd  | 4th  | Assignment -1 Anatomical Structure of a bacterial cell | 3rd &4th | Preparation of claeaning agents and techniques of cleaning of glass and plastic ware |
| 5th  | Bacterial cell including spores,flagella,capsules |
| 6th  | Bacterial growth curve |
| 3rd  | 7th  | Bacterial nutrition | 5th & 6th | Sterilization by autoclave and hot air oven. |
| 8th  | Revision of unit 1  |
|  | 9th  | Morphological classification of Bacteria |
| 4th  | 10th  | Revision of unit 2 | 7th & 8th | Sterilization by filteration(Seitz) |
| 11th  | Microscopy-principle,care,working |
| 12th  | Dark Field Microscope |
| 5th | 13th  | Assingnment -2 Flourescent ,Phase Contrast,Electron Microscope | 9th & 10th | Viva of the exrperiments performed in lab |
| 14th  | Revision of unit 3 |
| 15th  | Sterilization – Introduction, By dry ,moist heat |
| 6th | 16th  | Autoclave and hot air oven, structure ,function | 11th & 12th | Handling and use of compound microscope |
| 17th  | Revision of unit 4 |
| 18th  | Sterilization indicators,filtration |
| 7th | 19th  | Antiseptics and Disinfectants-introduction,type,uses | 13th & 14th | Staining techniques: Gram,Albert’s,Ziehl-Neelson’s |
| 20th  | Revision of unit 5 |
| 21st  | Bacterial culture  |
| 8th | 22nd  | Culture Techniques | 15th & 16th | Demonstration of motility(Hanging drop method) |
| 23rd  | Inoculation,aerobic culture |
| 24th  | Isolation of mixed and pure culture |
| 9th | 25th  | Revision of unit 6 | 17th &18th |  Revision of experiment 5,6,7 |
| 26th  | Culture media –Ideal and its types |
| 27th  | Liquid and solid,defined and synthetic,basal |
| 10th | 28th  | Enriched ,selective,enrichment,indicator ,transport media | 19th &20th | Prep and Sterilization of various culture media  |
| 29th  | Revision of unit 7 |
| 30th  | Staining Techniques-method ,procedure |
| 11th | 31st  | Assignment -3 Gram ,ZN,Albert Stain | 21st &22nd |  Cutivation of Bacteria-Aerobic |
| 32nd  | Identification and characteristics of bacteria by microscopic examination |
| 33rd | Colony characteristics,motility methods,Biochemicals |
| 12th | 34th  | Carbohydrate utilization,catalase,oxidase | 23rd & 24th |  Antimicrobial susceptibility testing by Stokes disc diffusion method |
| 35th  | Coagulase, Indole,MR,VP,citrate utilization |
| 36th  | Revision of unit 8 |
| 13th | 37th  | Antibiotics sensitivity | 25th & 26th |  Biochemical Testing |
| 38th  | Revision of ch 9 |
| 39th  | Disc diffusion method |
| 14th | 40th  | Revision of unit 10 | 27th & 28th | VIVA |
| 41st  | Revision of unit 11 |
| 42nd  | Revision of unit 12 |
| 15th | 43th  | Doubt class of unit 1 to 6 | 29th & 30th  | Revision of experiments |
| 44th  | Doubt class of unit 7 to 12 |
| 45th  | Revision of whole syllabus |
| 16th | 46th | Introduction to the whole syllabus of CMB-II | 31st &32nd | Collection, transportation of clinical samples, processing including culture of urine |
| 47th |  Bacteriology - General characteristics of bacteria |
| 48th | Discussion General characteristics of bacteria morphology, staining |
| 17th | 49th |  General characteristics of bacteria culture | 33rd &34th | Collection, transportation of clinical samples, processing including culture of stool. |
| 50th | biochemical – Characteristics |
| 51st | distribution of :- Staphylococi |
| 18th | 52nd | distribution of :- Streptococci | 35th & 36th | Collection, transportation of clinical samples, processing including culture of sputum throat swabs |
| 53rd | distribution of :- pneumococci |
| 54th | Enterobacteriacae - (E coli, Salmonella, Shigella) |
| 19th | 55th | Enterobacteriacae - (E coli, Salmonella, Shigella) | 37th & 38th | Collection, transportation of clinical samples, processing including culture of pus and pus swab. |
| 56th | Pseudomonas |
| 57th | Proteus |
| 20th | 58th | Vibrio Cholerae | 39th & 40th | Viva of the exrperiments performed in lab |
| 59th | Neisseria |
| 60th | Treponema Pallidium |
| 21st | 61st  | Mycobacterium tuberculosis | 41st & 42nd | Collection, transportation of clinical samples, processing including culture of Blood |
| 62nd | Revision of the bacterias |
| 63rd | Class test – Bacterias |
| 22nd | 64th |  Bacterial pathogenicity Introduction of pathogenicity | 43rd & 44th | Collection, transportation of clinical samples, processing including culture of Skin |
| 65th | Introduction of pathogenicity & infection |
| 66th | Sources of infection |
| 23rd | 67th  | Mode of spread of infection | 45th & 46th | Collection, transportation of clinical samples, processing including culture of Eye and Ear swabs |
| 68th | Types of infection |
| 69th | Types of infection |
| 24th | 70th |  Nosocomial Infection- Introduction | 47th &48th |  Revision of experiment  |
| 71st | Common types |
| 72nd | source of nosocomial infection |
| 25th | 73rd | source of nosocomial infection | 49th &50th | Identification of known bacterial cultures of common pathogens |
| 74th | Control of nosocomial infections |
| 75th | Control of nosocomial infections |
| 26th | 76th | Revision  | 51st &52nd | Identification of known bacterial cultures of common pathogens |
| 77th  | Class test |
| 78th |  Laboratory diagnosis of infectious diseases: introduction |
| 27th | 79th | Respiratory tract infections (Throat Swab and Sputum sample) | 53rd & 54th | Viva of experiment  |
| 80th | Wound infections |
| 81st | Urinary tract infections |
| 28th | 82nd | Enteric fever &Intestinal infection  | 55th & 56th | Problem solving seesions of students in practicals |
| 83rd | Revision of Bacterial pathogenicity |
| 84th | Class test Bacteria |
| 29th | 85th | Revision of Nosocomial | 57th & 58th | VIVA |
| 86th | Revision Nosocomial infections |
| 87th  | Revision test Lab diagnosis |
| 30th | 88th  | Revision of srepto,staphylococci etc | 59th & 60th  | Revision of experiments |
| 89th | Revision test of whole syllabus |
| 90th | Revision of whole syllabus |