SYLLABUS 2021-2022

STANDARD: 12 **SUBJECT: MICROBIOLOGY**

MONTH	TOTAL NO. OF UNITS	UNIT	CONTENT
January	2	5 Food Microbiology	5.1 Food Microbiology 5.1.1 Classification of foods 5.1.2 Sources of Microorganisms in food 5.1.3 Factors that influence Growth of microorganisms in food 5.2 Food spoilage 5.2.1 Causes of food spoilage 5.3 Food borne disease 5.3.1 Food borne infection 5.3.2 Food poisoning 5.5.5 Methylene Blue dye Reduction Test (MBRT)
		6 Industrial Microbiology	6.2 Screening of industrially important microorganism 6.3 Strain improvement 6.4 Preservation of industrially important microorganisms 6.5 Fermentors 6.5.1 Basic design of a fermentor 6.6 Industrial production of Penicillin 6.9 Industrial production of citric acid 6.10 Immobilization
		Practical	2. Identification of the fungus (Aspergillus/ Mucor/ Rhizopus) 3. Blood Grouping **Slide** 8. Eggs of Ascaris lumbricoides 9. Heterocysts of Nostoc

February	2	7 Medical Bacteriology	7.3 Staphylococcus aureus 7.3.1 Morphology 7.3.2 Cultural characteristics 7.3.3 Virulence Factors 7.3.4 Pathogenicity 7.3.5 Laboratory diagnosis 7.3.6 Treatment 7.4 Streptococcus pyogenes 7.4.1 Morphology 7.4.2 Cultural characteristics 7.4.3 Antigenic structure 7.4.4 Pathogenicity 7.4.5 Laboratory diagnosis 7.4.6 Treatment 7.5 Neisseria meningitides 7.5.1 Morphology 7.5.2 Cultural characteristics 7.5.3 Pathogenicity 7.5.4 Laboratory diagnosis 7.5.5 Treatment and prophylaxis
			7.6 Corynebacterium diphtheriae 7.6.1 Morphology 7.6.2 Cultural characteristics 7.6.3 Pathogenicity 7.6.4 Clinical Manifestations 7.6.5 Laboratory diagnosis 7.6.6 Prophylaxis 7.6.7 Treatment 7.7 Clostridium tetani 7.7.1 Morphology 7.7.2 Cultural characteristics 7.7.3 Toxins 7.7.4 Pathogenesis 7.7.5 Clinical feature 7.7.6 Laboratory diagnosis 7.7.7 Treatment 7.7.8 Prophylaxis 7.9 Salmonella typhi

February	2	7 Medical Bacteriology	7.9.1 Morphology 7.9.2 Cultural characteristics 7.9.3 Pathogenicity 7.9.4 Clinical Manifestations 7.9.5 Laboratory diagnosis 7.9.6 Prophylaxis 7.9.7 Treatment and control measures 7.11 Mycobacterium tuberculosis 7.11.1 Morphology 7.11.2 Cultural characteristics 7.11.3 Pathogenicity 7.11.4 Clinical symptoms 7.11.5 Laboratory diagnosis 7.11.6 Treatment 7.11.7 Prophylaxis and control measures 7.12 Treponema pallidum 7.12.1 Morphology 7.12.2 Cultural characteristics 7.12.3 Pathogenicity 7.12.4 Laboratory diagnosis 7.12.5 Treatment and preventive measure 7.13 Leptospira interogans 7.13.1 Morphology 7.13.2 Antigenic structure 7.13.3 Pathogenicity 7.13.4 Laboratory diagnosis 7.13.5 Treatment and preventive measure
		8 Medical Parasitology	8.1 Parasite and host 8.1.1 Association between host and parasite 8.1.2 Types and classification of parasite 8.1.3 Types of host 8.1.4 Classification of medical parasitology 8.1.5 Life cycle of parasites 8.1.6 Tranmission of parasites 8.2 Entamoeba histolytica 8.2.1 Geographical Distribution

February	2		8.2.2 Habitat 8.2.3 Morphology 8.2.4 Life cycle of Entamoeba histolytica 8.2.5 Pathogenesis 8.2.6 Clinical features 8.2.7 Laboratory diagnosis 8.2.8 Prevention and control 8.4 Leishmania donovani 8.4.1 Geographical Distribution 8.4.2 Habitat 8.4.3 Morphology 8.4.4 Life cycle of Leishmania donovani 8.4.5 Pathogenesis 8.4.6 Clinical features 8.4.7 Prevention and control 8.5 Plasmodium 8.5.1 Geographical Distribution 8.5.2 Habitat 8.5.3 Vectors 8.5.4 Life cycle 8.5.5 Human cycle 8.5.6 Mosquito cycle 8.5.7 Pathogenesis 8.5.8 Clinical features 8.5.9 Complication of server falciparum malaria 8.5.10 Recrudescence 8.5.11 Plasmodium vivax 8.5.12 Clinical features 8.5.13 Laboratory diagnosis 8.5.14 Treatment 8.5.15 Prevention and control
		Practical	2. Identification of the fungus (Aspergillus/ Mucor/Rhizopus) 3. Blood grouping 4. Blood staining **Spotter** 8. Eggs of Ascaris lumbricoides 9. Heterocysts of Nostoc 11. Antibiotic sensitivity plate – Kirby Bauer technique 14. Spoiled Food