

Subject Code: 1NR1020107	Subject Title: MICROBIOLOGY
Pre-requisite	-----NA-----

Course Description

This course reorients the students to the fundamentals of Microbiology and its various sub-divisions. It provides opportunities to gain skill in handling and use of microscope for identifying various micro-organisms. It also provides opportunities for safe handling of materials containing harmful bacteria and methods of destroying microorganisms.

Teaching Scheme (Total Hours)			Evaluation Scheme (Marks)				
Lecture	Practical	Total Hours	Theory		Practical		Total
			University Assessment	Continuous Assessment	University Assessment	Continuous Assessment	
60	30	90	75	25	-	-	100

Course Content:

UNIT	Time (HRS)		Learning Objective	COURSE CONTENTS	Teaching learning Activities	Assessment Method
	T	P				
I	5	5	Describe the structure, classification morphology & motility of microbes	* Structure and classification of microbes * Morphological types * Size and form of bacteria * Motility. * Classification of Micro-organisms. Practical: * Use and care of microscope. * Common Examination :Smear, blood, mouldes, yeasts.	Lecture, discussion Demonstration	Written Test; Objective and Essay Type.
II	5	5	Identify common disease producing micro-organisms Describe & discuss different laboratory methods to diagnose bacterial diseases	Identification of Micro- organisms Discussion of laboratory methods Diagnosis of bacterial diseases. Practical: Staining techniques- gram staining, acid fast staining. Hanging drop preparation.	Lecture, discussion Demonstration	Written Test; Objective and Essay Type.
III	5	5	Describe the growth & nutrition of microbes	* Growth and Nutrition of Microbes * Temperature * Moisture * Blood Practical: * Preparation of Media and culture techniques. * Collection, handling and Transportation of various specimens.	Lecture, discussion Demonstration	Written Test; Objective and Essay Type.

IV	10	2	Describe the methods of infection control Identify the different disease producing micro-organisms	* Destruction of Micro- organisms. Sterilization and disinfection * Chemotherapy and antibiotics * Effects of heat and cold * Hospital infection control procedure and role of nurses. Practical: Sterilization methods– physical, chemical and mechanical	Lecture, discuss on Demonstrations	Written Test; Objective and Essay Type.
V	10	4	Describe the different diseases producing microorganisms	* Disease producing micro- organisms * Gram positive bacilli * Tuberculosis and Leprosy * Anaerobes * Cocci * Spirochaete * Rickettsiae Practical: Identification and study of the following bacteria: Streptococci, pneumococci And Staphylococci, Corynebacteria, Spirochetes and gonococci. Enteric bacteria. Posting in infection control department.	Lecture, discussion, Demonstrations Clinical practice	Written Test; Objective and Essay Type.
VI	5		Describe pathogenic fungi, dermatophytes & mycotic infections & its laboratory diagnosis	Pathogenic Fungi * Dermatophytes Systemic mycotic infection * Laboratory diagnosis of mycotic infection	Lecture, discussion, Demonstrations Clinical practice	Written Test; Objective and Essay Type.
VII	5	5	Explain the concept of immunity & hypersensitivity & immunization in diseases	* Immunity * Immunity and hypersensitivity –Skin test * Antigen and antibody reaction * Immunization in disease. Practical: Demonstration of serological methods	Lecture, discussion Clinical practice	Written Test; Objective and Essay Type.
VIII	5	4	Describe parasites & vectors, protozoal infections, helminthes & its diagnosis & disease transmission	* Parasites and vectors. * Characteristics And classification of parasites * Protozoal infection including amoebiasis * Helminthes infection * Diagnosis of parasitic infection * Vectors and Diseases transmitted by them. Practical: Identification of Parasites and Vectors.	Lecture, discussion Clinical practice	Written Test; Objective and Essay Type.

IX	5		Describe & classify different viruses Explain the causes of diseases by viruses & their control	* Viruses. * Classification and general character of viruses * Diseases caused by viruses in man and animal and their control.	Lecture, discussion Clinical practice	Written Test; Objective and Essay Type.
X	5		Explain food born infections & food poisoning	* Micro- organisms transmitted through food. * Food poisoning. Food borne infections.	Lecture, discussion Clinical practice	Written Test; Objective and Essay Type.

Practicum

Each student will practice in the laboratory as indicated in each unit of the courses outline. While giving nursing care in the wards they will practice collection and processing of specimens, prevention and control of hospital infections, sterilization, immunization, chemotherapy and maintenance of personal and environmental hygiene. Observation visit to incinerator, Posting in CSSD and infection control department.