

**DR D.Y. PATIL DEEMED UNIVERSITY**  
**COLLEGE OF NURSING**  
**PIMPRI, PUNE-18**

**Subject: Microbiology**  
**Second Year B. Sc. Nursing**  
**Faculty: Mrs Mary Ajit**

| UNIT                                      | TOPIC   | No of lectures                          | Lecture Serial No                                       |
|---|---|---|---|
| I<br>Introduction :                       | <ul style="list-style-type: none"> <li>• Importance and relevance to nursing</li> <li>• Historical perspective</li> <li>• Concepts and terminology</li> <li>• Principles of microbiology</li> </ul>   | 1<br>1<br>2<br>1                        | 1<br>2<br>3-4<br>5                                      |
| II<br>General characteristics of Microbes | <ul style="list-style-type: none"> <li>• Structure and classification of Microbes.</li> <li>• Morphological types</li> <li>• Size and form of bacteria</li> <li>• Motility</li> <li>• Colonization</li> <li>• Growth and nutrition of microbes               <ul style="list-style-type: none"> <li>* Temperature</li> <li>* Moisture</li> <li>* Blood and body fluids</li> </ul> </li> <li>• Laboratory methods for Identification of Micro-organisms</li> <li>• Staining techniques, Gram staining, Acid fast staining, Hanging drop Preparation</li> </ul> Culture; various medias   | 2<br>1<br><br>2<br><br>2<br>3           | 6-7<br>8<br><br>9-10<br><br>11-12<br>13-15              |
| III<br>Infection control                  | <ul style="list-style-type: none"> <li>• Infection: Sources, portals of entry and exit, transmission.</li> <li>• Asepsis</li> <li>• Disinfection; Types and methods</li> <li>• Sterilization ; Types and Methods</li> <li>• Chemotherapy and antibiotics</li> <li>• Standard safety measures</li> <li>• Biomedical waste management</li> <li>• Role of Nurse</li> <li>• Hospital acquired infection</li> <li>• Hospital infection control programme</li> <li>* Protocols, collection of samples, preparation of report and status of rate of infection in the unit / hospital, nurse's accountability, continuing education etc.</li> </ul> | 2<br><br>2<br>2<br><br>1<br>1<br>1<br>1 | 16-17<br><br>18-19<br>20-21<br><br>22<br>23<br>24<br>25 |
| IV<br>Pathogenic                          | <ul style="list-style-type: none"> <li>• Micro-organisms               <ul style="list-style-type: none"> <li>o Cocci – gram positive and gram negative</li> </ul> </li> </ul>  | 4                                       | 26-29   |

|               |   |                       |                                     |
|---------------|---|-----------------------|-------------------------------------|
| organisms     | <ul style="list-style-type: none"> <li>○ bacilli-gram positive gram negative</li> <li>○ Spirochaete</li> <li>○ Mycoplasmas</li> <li>○ Rickettsiae</li> <li>○ Chlamydie</li> <li>• Viruses</li> <li>• Fungi-Superficial and Deep mycoses</li> <li>• Parasites</li> <li>• Rodents &amp; vectors Characteristics, Source, portal of entry, transmission of infection</li> <li>Identification of disease producing micro-organisms Collection, handling and transportation of various specimens.</li> </ul> | 2<br>2<br>2<br>2      | 30-31<br>32-33<br>34-35<br>36-37    |
| V<br>Immunity | <ul style="list-style-type: none"> <li>• Immunity – Types, classification</li> <li>• Antigen and antibody reaction</li> <li>• Hypersensitivity – skin test</li> <li>• Serological tests</li> <li>• Immuno prophylaxis</li> <li>○ Vaccines &amp; sera – Types &amp; Classification, storage and handling, cold chain</li> <li>○ Immunization for various diseases</li> <li>○ Immunization Schedule</li> </ul>  | 2<br>2<br>1<br>1<br>2 | 38-39<br>40-41<br>42<br>43<br>44-45 |

**Laboratory Hours: - 15 hours**

• **Bibliography:**

1. Alice Corrairie Smith, “Microbiology and pathology” 9<sup>th</sup> ed., Mosby Co.
2. Bernard D. Davis, Rentap Dalbecco Herman N. Eisen & Harold S. Ginsberg, “Microbiology”, 3<sup>rd</sup> Ed, A Harper International edition.
3. Hug L. L Moffet, (1981) “Clinical microbiology”, 2<sup>nd</sup> ed., J. B. Lippincott Co.
4. Macbie and Mecartney, (1980), “Medical microbiology” 13<sup>th</sup> ed., printed.
5. P. Ananthanarayan and C. K. Jayarm Panikar, “Textbook of microbiology”, 8<sup>th</sup> ed., Orient Longman Company Ltd.
6. Chakravarti Text book of Microbiology.
7. T. Panjratan Text Book of Microbiology in nursing, New central Bool agency Culcutta 2002.

## **Evaluation Scheme**

### **INTERNAL ASSESSMENT            25 marks**

|            |   |    |
|------------|---|----|
| Periodical | : | 25 |
| Midterm    | : | 50 |
| Pre-final  | : | 75 |

**Total                                :        150**

15 marks (Send to University)

Assignment -                                10 marks

### **EXTERNAL ASSESSMENT**

University examination        : 75 marks