

MANAV RACHNA INTERNATIONAL INSTITUTE OF RESEARCH & STUDIES
(Deemed to be University under section 3 of the UGC Act 1956)

Ph.D ADMISSION TEST (MR-PAT)

Ph.D. in Microbiology

Module 1: General and applied Microbiology

- 1.1 Microscopy and morphology of bacteria, viruses, fungi
- 1.2 Sterilisation and disinfection, universal standard precautions and biomedical waste management
- 1.3 Culture media and culture techniques
- 1.4 Antimicrobial sensitivity testing
- 1.5 Microbial pathogenicity, Nosocomial infection, asepsis and infection control
- 1.6 Immunology
- 1.7 Bacterial genetics and bacteriophages
- 1.8 Molecular techniques

Module 2: Systematic bacteriology

- 2.1 Medically important bacteria- Gram positive and negative Cocci, Gram positive and negative bacilli, Mycobacterium, Spirochaetes
- 2.2 Laboratory diagnosis of infectious diseases

Module 3- Virology

- 3.1- Medically important DNA and RNA viruses

Module 4- Parasitology

- 4.1- Medically important intestinal, tissue protozoans, cestodes, trematodes and nematodes

Module 5- Mycology

- 5.1- Medically important fungi

Suggested Readings:

1. Books-
 - Text book of Microbiology CP Baveja, DR Arora, Ananthnarayan Panicker
 - Bailey & Scott diagnostic Microbiology
 - Mackie & McCortney Text book and laboratory manual
2. Weblinks-
 - <https://www.ncbi.nlm.nih.gov/books/NBK7627/->; <https://www.microbiologybook.org/>;
 - <https://www.us.elsevierhealth.com/m>
 - https://link.springer.com/book/10.1007/978-981-19-33158medicine/microbiology?srsltid=AfmBOopQIQp9jjYXDKukJKOCc__rjjoUqibqbde-Sj8u4uhGuBjouaz4;
 - <https://emedicodiary.com/book/view/281/baveja-textbook-of-microbiology>;
 - <https://www.universitiespress.com/AandPTBofMicrobiology13>