

## DSE-1 CONTROL OF MICROBIAL DISEASES

MM : 100

Time : 3 hrs

L Credit

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Total Hours: 60

Sessional : 30

ESE : 70

Pass Marks : 40

**Learning objectives:**

- To understand the difference between infectious and non-infectious diseases.
- To understand the difference between microbial and non-microbial diseases.
- To know the microbial disease of human beings.
- To understand the mechanism of chemotherapeutic agents used for the treatment of bacterial and viral diseases.

**Learning outcomes:**

At the end of course student will be able to

- Explain the role of microorganism in causing bacterial as well as viral diseases.
- Explain the mechanism of antibacterial and antiviral drugs.
- Describe the vaccine schedule and types of vaccines.

**UNIT - I**

**Human Diseases:** Infectious and non-infectious diseases, microbial and non-microbial diseases, Deficiency diseases, occupational diseases, Incubation period, mortality rate, nosocomial infections. (06 Lectures)

**UNIT - II**

**Microbial diseases:** Respiratory microbial diseases, gastrointestinal microbial diseases, skin diseases, eye diseases, urinary tract diseases, Sexually transmitted diseases: Types, route of infection, clinical systems and general prevention methods, study of recent outbreaks of human diseases (nSARS-Co2/ SARS, Swine flu, Ebola) – causes, spread and control, Mosquito borne disease – Types and prevention. (16 Lectures)

**UNIT - III**

**Therapeutics of Microbial diseases:** Antibiotics: beta-lactam antibiotics (penicillin, cephalosporins), quinolones, polypeptides and aminoglycosides. Judicious use of antibiotics, importance of completing antibiotic regimen, Concept of DOTS, emergence of antibiotic resistance, current issues of MDR/XDR microbial strains. Treatment using antiviral agents: Amantadine, Acyclovir, Azidothymidine. Concept of HAART. (16 Lectures)

**UNIT - IV**

**Prevention of Microbial Diseases:** General preventive measures, Importance of personal hygiene, environmental sanitation and methods to prevent the spread of infectious agents transmitted by direct contact, food, water and insect vectors. (16 Lectures)

**UNIT - V**

**Vaccines:** Importance, types, vaccines available against microbial diseases, vaccination schedule (compulsory and preventive) in the Indian context. (06 Lectures)

**Suggested Reading**

1. Dubey R.C. and Maheshwari, D.K. *A Textbook of Microbiology*. 3rd ed., S. Chand & Co, Ram Nagar, New Delhi, p. 1034. ISBN 81-219-2620-3
2. Mackie and McCartney. *Practical Medical Microbiology*, Elsevier
3. CKJ Paniker. *Test Book of Microbiology*, Orient Longman
4. D.R.Arora. *Medical Mycology*, CBS Publisher and Distributors

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12/4/21